speedtouch™

SpeedTouch™510v5/v6 and 530v5/v6

Residential ADSL Gateway

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CLI Reference Guide

Release R5.4

UPnP™

A THOMSON BRAND

THOMSON

SpeedTouch™ 510v5/v6 and 530v5/v6

CLI Reference Guide

R5.4

speedtouch™

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About this Document

Introduction

Welcome to the SpeedTouch™ Command Line Interface (CLI) Reference Guide!

For the Service Provider, this Reference Guide aims to be a concise and practical document for creating a customized Service Template file, based on the SpeedTouch™ CLI command set, to be used by the end user to configure the SpeedTouch™ and computer(s).

For the fastidious user, this Reference Guide aims to be a handbook for advanced and detailed configuration and troubleshooting of the SpeedTouch™ via its character based CLI command set.

Applicability

This CLI Reference Guide covers the CLI commands of the following Digital Subscriber Line (DSL) SpeedTouch™ products:

SpeedTouch™510v5/v6 and 530v5/v6(i) (WL) Multi-User ADSL Gateway (R5.4)For readability, all are referred to as SpeedTouch™ throughout this document unless a specific variant is concerned.

Contents

The CLI Reference Guide describes all the available CLI commands of the SpeedTouch™ per command group and in alphabetical order.

Each command is described in a systematic manner:

- The full name of the CLI command (including the group selection).
- A short description of the CLI command, if necessary completed by a description of the possible impact on the user and/or the SpeedTouch™.
- The syntax of the command with a description of each parameter.
- An example to demonstrate the use of the CLI command.
- A list of related CLI commands.

Other Information

For more information on the SpeedTouch™ CLI, various access methods, general manipilations to navigate through the CLI refer to the SpeedTouch™510v5/v6 User’s Guide.

For a description on the functional use of the CLI commands see the corresponding SpeedTouch™ configuration guides and application notes.

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Symbols

The following symbols are used in this CLI Reference Guide:

A ***note*** provides additional information about a topic.

A ***tip*** provides an alternative method or shortcut to perform an action.

A ***caution*** warns you about potential problems or specific precautions that need to be taken.

Conventions

The following conventions are used to present the CLI commands:

- Vertical bars (|) separate alternative, mutually exclusive, elements.
- Square brackets [] indicate optional elements.
- Braces {} indicate a required choice.
- Braces within square brackets [{}] indicate a required choice within an optional element.
- <string> indicates that an alphanumerical string without blanks must be used.
- <quoted string> indicates that an alphanumerical string with blanks can be used. The string must be enclosed in quotes “.

Documentation and software updates

THOMSON continuously develops new solutions, but is also committed to improve its existing products.

For suggestions regarding this document, please contact documentation.speedtouch@thomson.net.

For more information on THOMSON's latest technological innovations, documents and software releases, visit us at: www.speedtouch.com

Root Commands

From the root prompt, you can choose one of the following commands:

Command	Description
help	Displays the help information.
?	
menu	Displays the menu.
exit	Exits the shell.
..	Exits group selection.
saveall	Saves current configuration.
ping	Send ICMP ECHO_REQUEST packets.
traceroute	Send ICMP/UDP packets to trace the ip path.

To obtain help on a specific command group:

- type **help**, followed by the name of the command group, and then press ENTER, or
- type the name of the command group, press ENTER, and then type **help**.

EXAMPLE:

```
<Administrator>=>help firewall
Following commands are available :

config          : Display/Modify firewall configuration.
list            : Display firewall configuration.
clear           : Clear firewall configuration.

Following command groups are available :

chain        debug        level        rule

<Administrator>=>
```

ping

Send ICMP ECHO_REQUEST packets.

SYNTAX:

ping	addr = <ip-address> [count = <number{1-1000000}>] [size = <number{0-20000}>] [interval = <number{100-1000000}>] [listen = <{disabled | enabled}>] [dffield = <{disabled | enabled}>] [srcaddr = <ip-address>]

where:

addr	The destination IP address.	REQUIRED
count	A number between 1 and 1000000. Represents the number of pings to send.	OPTIONAL
size	A number between 0 and 20000. Represents the size of the ping payload(s).	OPTIONAL
interval	A number between 100 and 1000000. Represents the interval in milliseconds between packets.	OPTIONAL
listen	Listen for incoming ICMP packets (enabled) or only send ICMP packets (disabled). The default is ***disabled***.	OPTIONAL
dffield	Enable or disable setting of the don’t fragment flag in the IP headers of the ping packet(s). The default is ***disabled***.	OPTIONAL
scraddr	The IP source address to use.	OPTIONAL

EXAMPLE:

```
=>ping
addr = 192.168.1.254
[count] = 2
[size] = 32
[interval] = 1000
[listen] = disabled
[dffield] = disabled
[scraddr] = 0.0.0.0
: ping addr=192.168.1.254 count=2
40 bytes from 127.0.0.1: Echo Request
40 bytes from 192.168.1.254: icmp_id = 2, icmp_seq=0 time=1025 us
40 bytes from 127.0.0.1: Echo Request
40 bytes from 192.168.1.254: icmp_id = 2, icmp_seq=1 time=1057 us
=>
```

traceroute

Send ICMP/UDP packets to trace the IP path.

SYNTAX:

```
traceroute              addr = <ip-address>
                        [count = <number{1-10}>]
                        [size = <number{1-20000}>]
                        [interval = <number{1000-60000}>]
                        [maxhops = <number{1-255}>]
                        [dstport = <number{1-65535}>]
                        [maxfail = <number{0-255}>]
                        [type = <{icmp | udp}>]
                        [utime = <{disabled | enabled}>]
```

where:

addr	The destination IP address.	REQUIRED
count	A number between 1 and 10. Represents the number of times to reissue a traceroute request with the same TTL. The default is ***3***.	OPTIONAL
size	A number between 1 and 20000 (bytes). Represents the size of the traceroute packet(s). The default is ***1***.	OPTIONAL
interval	A number between 1000 and 60000 (milliseconds). Represents the intermediate interval between two packets. The default is ***1000***.	OPTIONAL
maxhops	A number between 1 and 255. Represents the maximum number of routers through which a packet can pass. The default is ***30***.	OPTIONAL
dstport	A number between 1 and 65535. Represents the UDP destination port number to send to.	OPTIONAL
maxfail	A number between 0 and 255. Represents the maximum number of consecutive timeouts allowed before terminating a traceroute request. The default is ***5***.	OPTIONAL
type	The type of traceroute packet(s). Choose between: - ***icmp*** - ***udp***. The default is ***icmp***.	OPTIONAL
utime	Display time in useconds (enabled) or not (disabled). The default is ***enabled***.	OPTIONAL

EXAMPLE:

```
=>traceroute addr = 192.193.195.250 count=3 size=1 interval=1000 maxhops=30 dstport=33433
  maxfail=5 type=icmp utime=yes
:traceroute addr=192.193.195.250
ttl=1   192.193.195.250 676 us  1351 us 648 us

=>
```

ADSL Commands

Introduction

This chapter describes the commands of the `adsl` command group.

Contents

This chapter covers the following commands:

adsl config

Show/set the Asymmetric Digital Subscriber Line (ADSL) configuration.

SYNTAX:

```
adsl config   [opermode = <{multimode | multi_adsl2 | multi_readsl2
                           | multi_adsl2plus}>]
              [trace = <{disabled | enabled}>]
```

where:

opermode	The operational mode of the SpeedTouch™. Choose between: - multimode - multi_adsl2 - multi_readsl2 - multi_adsl2plus The default is ***multi_adsl2plus***.	OPTIONAL
trace	Enable or disable ADSL tracing. The default is ***enabled***.	OPTIONAL

EXAMPLE:

The example below shows the default configuration for a SpeedTouch™ ADSL/POTS variant:

```
=>adsl config
ADSL configuration:
        opermode = multi_adsl2plus
        trace = on
        modemoption = 00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00
=>
```

adsl info

Display the ADSL statistics and information about the DSL line status.

Although the same command is used for both SpeedTouch™ ADSL/POTS and SpeedTouch™ ADSL/ISDN variants, the command features specific output parameters and counters per variant.

SYNTAX:

```
adsl info
```

EXAMPLE (for a SpeedTouch™ ADSL/POTS variant):

```
=>adsl info
Modemstate            :  up
Operation Mode        :  G.992.1 Annex A
Channel Mode          :  interleaved
Number of resets      :  1

Vendor                              Local           Remote
  Country             :               0f               00
  Vendor              :             TMMB
  VendorSpecific      :             0000             0000
  StandardRevisionNr  :               00               00

                                  Downstream        Upstream
Margin       [dB]     :             26.0             18.0
Attenuation  [dB]     :              0.0              2.0
OutputPower  [dBm]    :              4.0             11.5

Available Bandwidth                 Cells/s           Kbit/s
  Downstream          :            14490             6144
  Upstream            :             1509              640


Transfer statistics
    Errors
      Received FEC    :                0
      Received CRC    :                0
      Received HEC    :                0
      Transmitted FEC :                0
      Transmitted CRC :                0
      Tranmsitted HEC :                0

     Near end failures since reset
      Loss of frame:          0 failures
      Loss of signal:         0 failures
      Loss of power:          0 failures
      Errored seconds:        0 seconds
     Near end failures last 15 minutes
      Loss of frame:          0 seconds
      Loss of signal:         0 seconds
      Loss of power:          0 seconds
      Errored seconds:        0 seconds
     Near end failures current day
      Errored seconds:        0 seconds
     Near end failures previous day
      Errored seconds:        0 seconds
=>
```

ATM Commands

Introduction

This chapter describes the commands of the **atm** command group.

Contents

This chapter covers the following commands:

atm flush

Flush all Asynchronous Transfer Mode (ATM) interfaces.

SYNTAX:

```
atm flush
```

atm ifadd

Create a new ATM interface.

SYNTAX:

```
atm ifadd  intf = <string>
```

where:

intf	The name for the new ATM interface. **Note** If not specified, the destination parameter must be specified. In this case the name of the destination will double as interface name.	REQUIRED

EXAMPLE:

```
=>atm iflist
atm_0_35   : dest : atm_pvc_0_35
            Retry : 10  QoS : default  Encaps : vcmux Fcs : disabled Ulp : mac
            Connection State : connected

=>
=>atm ifadd intf = RtPPPoA_atm
=>
=>atm iflist
atm_0_35   : dest : atm_pvc_0_35
            Retry : 10  QoS : default  Encaps : vcmux Fcs : disabled Ulp : mac
            Connection State : connected

RtPPPoA_atm: dest : (none)
            Retry : 10  QoS : default  Encaps : llc Fcs : disabled Ulp : ip
            Connection State : not-connected

=>
```

RELATED COMMANDS:

atm ifdelete	Delete an ATM interface.
atm iflist	Display the ATM interfaces.

atm ifattach

Attach a ATM interface.

SYNTAX:

```
atm ifattach  intf = <string>
```

where:

intf	The name of the ATM interface to be attached.	REQUIRED

EXAMPLE:

```
=>atm iflist
atm_0_35  : dest : atm_pvc_0_35
            Retry : 10  QoS : default  Encaps : vcmux Fcs : off Ulp : mac
            Connection State : connected

RtPPPoA_atm: dest : RtPPPoA
            Retry : 10  QoS : default  Encaps : vcmux Fcs : off Ulp : ppp
            Connection State : not-connected

=>atm ifattach intf=RtPPPoA_atm
=>
=>atm iflist
atm_0_35  : dest : atm_pvc_0_35
            Retry : 10  QoS : default  Encaps : vcmux Fcs : off Ulp : mac
            Connection State : connected

RtPPPoA_atm: dest : RtPPPoA
            Retry : 10  QoS : default  Encaps : vcmux Fcs : off Ulp : ppp
            Connection State : connected

=>
```

RELATED COMMANDS:

atm ifdetach	Detach an ATM interface.

atm ifconfig

Configure an ATM interface.

The interface to be configured must not be connected at the time of configuration. If this should be the case, use the command `:atm ifdetach` before using the command `:atm ifconfig`.

SYNTAX:

```
atm ifconfig   intf = <string>
               [dest = <string>]
               [qos = <string>]
               [encaps = <{llc | vcmux}>]
               [retry = <number{0-65535}>]
               [fcs = <{disabled | enabled | auto}>]
               [ulp = <{ip | mac | ppp}>]
```

where:

intf	The name of the ATM interface to be configured.	REQUIRED
dest	The WAN destination for this ATM interface. Typically, an ATM phonebook entry.	OPTIONAL
qos	The name of the Quality of Service (QoS) book entry to apply on this ATM interface. The default is ***default***.	OPTIONAL
encaps	The type of encapsulation to be used for this ATM interface. Choose between: ▸ ***llc***: Logical Link Control (LLC) / Sub Network Access Protocol (SNAP) ▸ ***vcmux***: Virtual Channel MUltipleXing (VCMUX). The default is ***llc***.	OPTIONAL
fcs	Enable or disable the inclusion of the Ethernet Frame Check Sequence (FCS) in the packet header on the WAN side (only used for llc encapsulation for mac). The default is ***disabled***. **Note** This parameter is normally left disabled.	OPTIONAL
retry	A number between 0 and 65535. Represents the number of times the SpeedTouch™ retries to set up a WAN connection before giving up. The default is ***10***.	OPTIONAL
ulp	Select the Upper Layer Protocol (ULP) for this interface. Choose between: ▸ ***ip*** (for a Routed IPoA interface). ▸ ***mac*** (for a Bridged Ethernet, Routed ETHoA, Bridged PPP over Ethernet (PPPoE), Routed PPPoE or a PPPoE Relay interface). ▸ ***ppp*** (for a Routed PPP over ATM (PPPoA) interface). The default is ***ip***.	OPTIONAL

EXAMPLE:

```
=>atm iflist
atm_0_35   : dest : atm_pvc_0_35
            Retry : 10  QoS : default  Encaps : llc Fcs : disabled Ulp : mac
            Connection State : connected

atm_8_35   : dest : atm_pvc_8_35
            Retry : 10  QoS : default  Encaps : llc Fcs : disabled Ulp : mac
            Connection State : not-connected
=>
=>atm ifconfig intf=atm_8_35 dest=atm_pvc_8_35 encaps=vcmux ulp=ppp
=>
=>atm iflist
atm_0_35   : dest : atm_pvc_0_35
            Retry : 10  QoS : default  Encaps : llc Fcs : disabled Ulp : mac
            Connection State : connected

atm_8_35   : dest : RtPPPoA
            Retry : 10  QoS : default  Encaps : vcmux Fcs : disabled Ulp : ppp
            Connection State : not-connected

=>
```

atm ifdelete

Delete an ATM interface.

SYNTAX:

```
atm ifdelete  intf = <string>
```

where:

intf	The name of the ATM interface to be deleted.	REQUIRED

EXAMPLE:

```
=>atm iflist
atm_0_35   : dest : atm_pvc_0_35
            Retry : 10  QoS : default  Encaps : vcmux Fcs : off Ulp : mac
            Connection State : connected

RtPPPoA_atm: dest : RtPPPoA
            Retry : 10  QoS : default  Encaps : vcmux Fcs : off Ulp : ppp
            Connection State : connected

=>
=>atm ifdelete intf=RtPPPoA_atm
=>
=>atm iflist
atm_0_35   : dest : atm_pvc_0_35
            Retry : 10  QoS : default  Encaps : vcmux Fcs : off Ulp : mac
            Connection State : connected

=>
```

RELATED COMMANDS:

atm ifadd	Create a new ATM interface.
atm iflist	Display the ATM interfaces.

atm ifdetach

Detach an ATM interface.

SYNTAX:

```
atm ifdetach  intf = <string>
```

where:

intf	The name of the ATM interface to be detached.	REQUIRED

EXAMPLE:

```
=>atm iflist
atm_0_35   : dest : atm_pvc_0_35
            Retry : 10  QoS : default  Encaps : vcmux Fcs : off Ulp : mac
            Connection State : connected

RtPPPoA_atm: dest : RtPPPoA
            Retry : 10  QoS : default  Encaps : vcmux Fcs : off Ulp : ppp
            Connection State : connected

=>
=>atm ifdetach intf=RtPPPoA_atm
=>
=>atm iflist
atm_0_35   : dest : atm_pvc_0_35
            Retry : 10  QoS : default  Encaps : vcmux Fcs : off Ulp : mac
            Connection State : connected

RtPPPoA_atm: dest : RtPPPoA
            Retry : 10  QoS : default  Encaps : vcmux Fcs : off Ulp : ppp
            Connection State : not-connected

=>
```

RELATED COMMANDS:

atm ifattach	Attach a ATM interface.

atm iflist

Display the ATM interfaces.

SYNTAX:

```
atm iflist  [intf = <string>]
```

where:

intf	The name of the ATM interface to be shown. **Note** If not specified, all the ATM interfaces are shown.	OPTIONAL

EXAMPLE:

```
=>atm iflist
atm_0_35   : dest : atm_pvc_0_35
            Retry : 10  QoS : default  Encaps : vcmux Fcs : off Ulp : mac
            Connection State : connected

RtPPPoA_atm: dest : RtPPPoA
            Retry : 10  QoS : default  Encaps : vcmux Fcs : off Ulp : ppp
            Connection State : connected

=>atm iflist intf=RtPPPoA_atm
RtPPPoA_atm: dest : RtPPPoA
            Retry : 10  QoS : default  Encaps : vcmux Fcs : off Ulp : ppp
            Connection State : connected
=>
```

RELATED COMMANDS:

atm ifadd	Create a new ATM interface.
atm ifdelete	Delete an ATM interface.

atm bundle add

Add a new bundle of interfaces.

SYNTAX:

```
atm bundle add  name = <string>
```

where:

name	The name of the new bundle.	REQUIRED

EXAMPLE:

```
=>atm bundle add name=myBundle
=>atm bundle list
myBundle: Connection state : not-connected
          Retry: 10                       Policy: priority  Propagate: disabled
          TX requested bytes: 0           requested frames: 0
          TX bytes: 0                     frames: 0
          RX bytes: 0                     frames: 0
=>
```

RELATED COMMANDS:

atm bundle delete	Delete a bundle of interfaces.
atm bundle list	Display the current bundles.

atm bundle attach

Attach a bundle of interfaces.

SYNTAX:

```
atm bundle attach  name = <string>
```

where:

name	The name of the bundle to be attached.	REQUIRED

EXAMPLE:

```
=>atm bundle attach name=myBundle
=>atm bundle list
myBundle: Connection state : connected
          Retry: 10                        Policy: priority  Propagate: disabled
          TX requested bytes: 0            requested frames: 0
          TX bytes: 0                      frames: 0
          RX bytes: 0                      frames: 0
=>
```

RELATED COMMANDS:

atm bundle detach	Detach a bundle of interfaces.

atm bundle config

Modify a bundle of interfaces.

The bundle of interfaces to be configured must not be connected at the time of configuration. If this should be the case, use the command `:atm bundle detach` before using the command `:atm bundle config`.

SYNTAX:

```
atm bundle config  name = <string>
                   [policy = <{priority | connection}>]
                   [propagate = <{disabled | enabled}>]
                   [retry = <number{0-65535}>]
```

where:

name	The name of the bundle to be configured.	REQUIRED
policy	The traffic handling policy of the bundle. Choose between: - ***priority***: lower layer ATM interfaces can be configured for a certain priority range, marked packets will be sent on the corresponding interface. - ***connection***: all the packets of the same connection will be sent via the same interface. The default is ***priority***.	OPTIONAL
propagate	Enable or disable propagation of packets. When propagation is enabled, packets are sent via the first interface configured for that traffic. If the interface goes down, the next interface in the bundle will be used. The default is ***disabled***.	OPTIONAL
retry	A number between 0 and 65535. Represents the number of connection setup retries before giving up. The default is ***10***.	OPTIONAL

EXAMPLE:

```
=>atm bundle list
myBundle: Connection state : not-connected
          Retry: 10                       Policy: priority  Propagate: disabled
          TX requested bytes: 0           requested frames: 0
          TX bytes: 0                     frames: 0
          RX bytes: 0                     frames: 0
=>atm bundle config name=myBundle policy=connection retry=15
=>atm bundle list
myBundle: Connection state : not-connected
          Retry: 15                       Policy: connection  Propagate: disabled
          TX requested bytes: 0           requested frames: 0
          TX bytes: 0                     frames: 0
          RX bytes: 0                     frames: 0
=>
```

atm bundle clear

Clear the bundle statistics.

SYNTAX:

```
atm bundle clear   [name = <string>]
```

where:

name	The name of the bundle for which the statistics must be cleared. **Note** If not specified, the statistics for all the bundles will be cleared.	OPTIONAL

atm bundle delete

Delete a bundle of interfaces.

SYNTAX:

```
atm bundle delete  name = <string>
```

where:

name	The name of the bundle to be deleted.	REQUIRED

RELATED COMMANDS:

atm bundle add	Add a new bundle of interfaces.
atm bundle list	Display the current bundles.

atm bundle detach

Detach a bundle of interfaces.

SYNTAX:

```
atm bundle detach  intf = <string>
```

where:

intf	The name of the bundle to be detached.	REQUIRED

RELATED COMMANDS:

atm bundle attach	Attach a bundle of interfaces.

atm bundle flush

Flush all bundles.

SYNTAX:

```
atm bundle flush
```

atm bundle ifadd

Add an interface on a bundle.

Up to 8 interfaces or (sub-)bundles can be added to one bundle.

SYNTAX:

```
atm bundle ifadd   name = <string>
                   intf = <string>
                   [index = <number{0-6}>]
```

where:

name	The name of the bundle to which an ATM interface must be added.	REQUIRED
intf	The name of the ATM interface to be added.	REQUIRED
index	A number between 0 and 6. Represents the index of the ATM interface.	OPTIONAL

EXAMPLE:

```
=>atm bundle ifadd name=myBundle intf=myATMintf
=>atm bundle list
myBundle: Connection state : not-connected
          Retry: 15                        Policy: connection
          TX requested bytes: 0            requested frames: 0
          TX bytes: 0                      frames: 0
          RX bytes: 0                      frames: 0
          Interface: myATMintf   State: enabled   Selector: 0-15
                     TX bytes: 0                     frames: 0
                     RX bytes: 0                     frames: 0
                     RX discarded bytes: 0           discarded frames: 0
                     Disconnects: 0
=>
```

RELATED COMMANDS:

atm bundle ifdelete	Remove an interface from a bundle.

atm bundle ifconfig

Configure an interface from a bundle.

The interface to be configured must not be connected at the time of configuration. If this should be the case, use the command `:atm bundle ifdetach` before using the command `:atm bundle ifconfig`.

SYNTAX:

```
atm bundle ifconfig   name = <string>
                      intf = <string>
                      [state = <{disabled | enabled}>]
                      [low = <number{0-15}>]
                      [high = <number{0-15}>]
```

where:

name	The name of the bundle from which an ATM interface must be configured.	REQUIRED
intf	The name of the ATM interface to be configured.	REQUIRED
state	Enable or disable the ATM interface. The default is ***enabled***.	OPTIONAL
low	A number between 0 and 15. Represents the low selector value. **Note** This parameter must only be configured when the policy of the bundle is set to ***priority*** (see “ atm bundle config” on page 23).	OPTIONAL
high	A number between 0 and 15. Represents the high selector value. **Note** This parameter must only be configured when the policy of the bundle is set to ***priority*** (see “ atm bundle config” on page 23).	OPTIONAL

atm bundle ifdelete

Remove an interface from a bundle.

SYNTAX:

```
atm bundle ifdelete   name = <string>
                      intf = <string>
```

where:

name	The name of the bundle from which an ATM interface must be removed.	REQUIRED
intf	The name of the ATM interface to be removed.	REQUIRED

EXAMPLE:

```
=>atm bundle iflist
Test      : dest : (none)
            Retry : 10  QoS : default  Encaps : llc Fcs : off Ulp : ip
            Connection State : not-connected

=>atm bundle ifdelete intf=Test
=>atm bundle iflist

=>
```

RELATED COMMANDS:

atm bundle ifadd	Add an interface on a bundle.

atm bundle list

Display the current bundles.

SYNTAX:

```
atm bundle list
```

EXAMPLE:

```
=>atm bundle list
Test    : Connection state : not-connected
          Retry: 10                       Policy: priority
          TX requested bytes: 0           requested frames: 0
          TX bytes: 0                     frames: 0
          RX bytes: 0                     frames: 0
          Interface: Test   State: enabled   Selector: 0-15
                     TX bytes: 0                    frames: 0
                     RX bytes: 0                    frames: 0
                     RX discarded bytes: 0          discarded frames: 0
                     Disconnects: 0
=>
```

RELATED COMMANDS:

atm bundle add	Add a new bundle of interfaces.
atm bundle delete	Delete a bundle of interfaces.

atm cac config

Configure the ATM connection admission control.

SYNTAX:

```
atm cac config        config port = <{dsl0|dsl1|atm2|atm3|aal5|atm5} or number>
                      state = <{disabled|enabled}>
```

where:

config port	The port for which CAC is configured.	REQUIRED
state	Enable/disable CAC for an ATM port.	REQUIRED

EXAMPLE:

```
{Administrator}=>atm cac config
port = dsl0
state = enabled
:atm cac config port=dsl0 state=enabled
{Administrator}=>
```

RELATED COMMANDS:

atm cac list	Display all the CAC parameters.
atm cac overbooking	Configure ATM overbooking parameters.

atm cac list

Display all the CAC parameters.

SYNTAX:

```
atm cac list
```

EXAMPLE:

```
{Administrator}[atm cac]=>list
CAC: port: dsl0 state: enabled
CAC: port: dsl1 state: enabled
CAC: port: atm2 state: enabled
CAC: port: aal5 state: disabled
CAC: port: atm5 state: disabled
Overbooking: realtime: 0% non-realtime: 0%.
{Administrator}[atm cac]=>
```

RELATED COMMANDS:

atm cac config	Configure the ATM connection admission control.
atm cac overbooking	Configure ATM overbooking parameters.

atm cac overbooking

Configure ATM overbooking parameters.

SYNTAX:

```
atm cac overbooking  rt = <number{0-1000}>
                     nrt = <number{0-1000}>
```

where:

rt	A number between 0 and 1000. The realtime overbooking percentage.	REQUIRED
nrt	A number between 0 and 1000. The non-realtime overbooking percentage.	REQUIRED

EXAMPLE:

```
{Administrator}[atm cac]=>overbooking rt 20 nrt 500
{Administrator}[atm cac]=>list
CAC: port: dsl0 state: enabled
CAC: port: dsl1 state: enabled
CAC: port: atm2 state: enabled
CAC: port: aal5 state: disabled
CAC: port: atm5 state: disabled
Overbooking: realtime: 20% non-realtime: 500%.
{Administrator}[atm cac]=>
```

RELATED COMMANDS:

atm cac config	Configure the ATM connection admission control.
atm cac list	Display all the CAC parameters.

atm debug aal5stats

Display ATM Adaptation Layer 5 (AAL5) port specific ATM statistics.

SYNTAX:

```
atm debug aal5stats  port = <{dsl0|dsl1|atm2|atm3|aal5|atm5} or number>
                     vpi = <number{0-15}>
                     [vci = <number{0-511}>]
                     [clear = <{disabled | enabled}>]
```

where:

port	The port number for which statistics will be retrieved. Choose between: ▶ DSL0 ▶ DSL1 ▶ ATM2 ▶ ATM3 ▶ AAL5 ▶ ATM5 Or specify a port number (dsl0 has port number 0).	REQUIRED
vpi	A number between 0 and 15. Represents the Virtual Path Identifier (VPI) number for which statistics will be retrieved.	REQUIRED
vci	A number between 0 and 511. Represents the Virtual Channel Identifier (VCI) number for which statistics will be retrieved.	OPTIONAL
clear	Enable or disable clearing of the statistics after request.	OPTIONAL

RELATED COMMANDS:

atm debug gstats	Display ATM global statistics.
atm debug portstats	Display port specific ATM statistics.

atm debug gstats

Display ATM global statistics.

SYNTAX:

```
atm debug gstats   [clear = <{disabled | enabled}>]
```

where:

clear	Enable or disable clearing of the statistics after request.	OPTIONAL

EXAMPLE:

```
{admin}[atm debug]=>gstats
        # of received octets = 1802.
        # of transmitted octets = 4346.
        # of received cells = 34.
        # of transmitted cells = 82.
        # of unknown cells = 0.
        # of errors on the input = 0.
        # of errors on output = 0.
{admin}[atm debug]=>
```

RELATED COMMANDS:

atm debug aal5stats	Display ATM Adaptation Layer 5 (AAL5) port specific ATM statistics.
atm debug portstats	Display port specific ATM statistics.

atm debug portstats

Display port specific ATM statistics.

SYNTAX:

```
atm debug portstats  port = <{dsl0} or number>
                     [clear = <{disabled | enabled}>]
```

where:

port	The port number for which statistics will be retrieved. Choose between: ▸ DSL0 Or specify a port number (dsl0 has port number 0).	REQUIRED
clear	Enable or disable clearing of the statistics after request.	OPTIONAL

EXAMPLE:

```
=>atm debug portstats port=dsl0
        # of received octets = 1961.
        # of transmitted octets = 4717.
        # of received cells = 37.
        # of transmitted cells = 89.
        # of unknown cells = 0.
        # of errors on the input = 0.
        # of errors on output = 0.
=>
```

RELATED COMMANDS:

atm debug aal5stats	Display ATM Adaptation Layer 5 (AAL5) port specific ATM statistics.
atm debug gstats	Display ATM global statistics.

atm oam config

Modify the ATM Operation and Maintenance (OAM) settings.

SYNTAX:

```
atm oam config   [clp = <number{0-1}>]
                 [loopbackid = <string>]
```

where:

clp	A number (0 or 1). Represents the Cell Loss Priority (CLP) bit value of the OAM cells. The default is ***1***.	OPTIONAL
loopbackid	A hexadecimal string. Represents the loopback ID for processing of segment loopback cells. The default is ***6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a***.	OPTIONAL

RELATED COMMANDS:

atm oam list	Display the ATM OAM settings.
atm oam modify	Modify the ATM OAM data blocking mode.
atm oam ping	Send ATM loopback cells.

atm oam list

Display the ATM OAM settings.

SYNTAX:

```
atm oam list
```

EXAMPLE:

```
=>atm oam list
  OAM config dump
-------------------
        CLP bit value : 1
        Loopback id   : 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a

  OAM data blocking mode
--------------------------
        Port dsl0: blocking
        Port dsl1: blocking
        Port atm2: blocking
        Port atm3: blocking
        Port aal5: blocking
        Port atm5: blocking
=>
```

RELATED COMMANDS:

atm oam config	Modify the ATM Operation and Maintenance (OAM) settings.
atm oam modify	Modify the ATM OAM data blocking mode.
atm oam ping	Send ATM loopback cells.

atm oam modify

Modify the ATM OAM data blocking mode.

SYNTAX:

```
atm oam modify  port = <{dsl0} or number>
                blocking = <{disabled | enabled}>
```

where:

port	The port for which OAM blocking is configured. Choose between: ▸ DSL0 Or specify a port number (dsl0 has port number 0).	REQUIRED
blocking	Enable or disable the OAM data blocking mode on this port. The default is ***enabled***.	REQUIRED

EXAMPLE:

```
=>atm oam list
  OAM config dump
-------------------
        CLP bit value : 1
        Loopback id   : 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a

  OAM data blocking mode
--------------------------
        Port dsl0: blocking
        Port dsl1: blocking
        Port atm2: blocking
        Port atm3: blocking
        Port aal5: blocking
        Port atm5: blocking
=>atm oam modify port=dsl1 blocking=disabled
=>:atm oam list
  OAM config dump
-------------------
        CLP bit value : 1
        Loopback id   : 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a 6a

  OAM data blocking mode
--------------------------
        Port dsl0: blocking
        Port dsl1: non blocking
        Port atm2: blocking
        Port atm3: blocking
        Port aal5: blocking
        Port atm5: blocking
=>
```

RELATED COMMANDS:

atm oam config	Modify the ATM Operation and Maintenance (OAM) settings.
atm oam list	Display the ATM OAM settings.
atm oam ping	Send ATM loopback cells.

atm oam ping

Send ATM loopback cells.

SYNTAX:

```
atm oam ping  dest = <string>
               [count = <number{1-1000000}>]
               [interval = <number{100-1000000}>]
```

where:

dest	The destination address for the request. This can be any ATM phonebook entry.	REQUIRED
count	A number between 1 and 1000000. Represents the number of pings to send.	OPTIONAL
interval	A number between 100 and 1000000 (milliseconds). Represents the interval between packets.	OPTIONAL

EXAMPLE:

```
=>atm oam ping dest=atm_ph_8_35 count=10 interval=1000
loopback: successful, sequence: 1 time: 37890 usec
loopback: successful, sequence: 2 time: 39118 usec
loopback: successful, sequence: 3 time: 39116 usec
loopback: successful, sequence: 4 time: 39187 usec
loopback: successful, sequence: 5 time: 38605 usec
loopback: successful, sequence: 6 time: 38764 usec
loopback: successful, sequence: 7 time: 38752 usec
loopback: successful, sequence: 8 time: 38813 usec
loopback: successful, sequence: 9 time: 38848 usec
loopback: successful, sequence: 10 time: 38941 usec

--- loopback statistics ---
10 loopbacks transmitted, 10 successful, 0% loss, time 1390 ms
rtt min/avg/max = 37890/38803/39187
=>
```

RELATED COMMANDS:

atm oam config	Modify the ATM Operation and Maintenance (OAM) settings.
atm oam list	Display the ATM OAM settings.
atm oam modify	Modify the ATM OAM data blocking mode.

atm oam cc list

Display Continuity Check (CC) configuration.

SYNTAX:

```
atm oam cc list
```

EXAMPLE:

```
=>atm oam cclist
PORT = 0 VPI = 15 VCI =  16 End2End Mode = Auto Segment Mode = Auto
PORT = 0 VPI = 0 VCI =  35 End2End Mode = Auto Segment Mode = Auto
PORT = 0 VPI = 8 VCI =  35 End2End Mode = Auto Segment Mode = Auto
PORT = 0 VPI = 0 VCI =  16 End2End Mode = Auto Segment Mode = Auto
=>
```

RELATED COMMANDS:

atm oam cc modify	Modify CC on the connection.
atm oam cc send	Send CC activate/deactivate to connection.

atm oam cc modify

Modify CC on the connection.

SYNTAX:

```
atm oam modify  port = <{dsl0|dsl1|atm2|atm3|aal5|atm5} or number>
                vpi = <number{0-15}>
                [vci = <number{0-511}>]
                [transmit = <{disabled | enabled}>]
                [receive = <{disabled | enabled}>]
                [auto = <{disabled | enabled}>]
                [span = <{segment | end2end}>]
```

where:

port	The ATM port number. Choose between: - DSL0 - DSL1 - ATM2 - ATM3 - AAL5 - ATM5 Or specify a port number (dsl0 has port number 0).	REQUIRED
vpi	A number between 0 and 15. Represents the VPI.	REQUIRED
vci	A number between 0 and 511. Represents the VCI. **Note** For a Virtual Path (VP) cross-connection, use 0 or do not specify.	OPTIONAL
transmit	Enable or disable transmission of CC cells.	OPTIONAL
receive	Enable or disable loss of continuity.	OPTIONAL
auto	Enable or disable remote CC activation/deactivation.	OPTIONAL
span	Select the CC span. Choose between: - ***end2end***: monitoring occurs on the entire VC between two ATM end stations. - ***segment***: monitoring occurs on a VC segment between the SpeedTouch™ and a first-hop ATM switch.	OPTIONAL

RELATED COMMANDS:

atm oam cc list	Display Continuity Check (CC) configuration.
atm oam cc send	Send CC activate/deactivate to connection.

atm oam cc send

Send CC activate/deactivate to connection.

SYNTAX:

```
atm oam cc send  port = <{dsl0} or number>
                 vpi = <number{0-15}>
                 [vci = <number{0-511}>]
                 [span = <{segment | end2end}>]
                 [action = <{activate | deactivate}>]
                 [direction = <{source | sink | both}>]
```

where:

port	The ATM port number. Choose between: - DSL0. Or specify a port number (dsl0 has port number 0).	REQUIRED
vpi	A number between 0 and 15. Represents the VPI.	REQUIRED
vci	A number between 0 and 511. Represents the VCI. **Note** For a VP cross-connection, use 0 or do not specify.	OPTIONAL
span	Select the CC span. Choose between: - ***end2end***: monitoring occurs on the entire VC between two ATM end stations. - ***segment***: monitoring occurs on a VC segment between the SpeedTouch™ and a first-hop ATM switch.	OPTIONAL
action	Activate or deactivate CC. The default is ***deactivate***.	OPTIONAL
direction	Indicates the direction of CC activity. Choose between: - source - sink - both. The default is ***both***.	OPTIONAL

RELATED COMMANDS:

atm oam cc list	Display Continuity Check (CC) configuration.
atm oam cc modify	Modify CC on the connection.

atm oam vclb add

Create a loopback connection for VC.

SYNTAX:

```
atm oam vclb add  port = <{dsl0} or number>
                  vpi = <number{0-15}>
                  [vci = <number{0-511}>]
```

where:

port	The ATM port number. Choose between: - DSL0 Or specify a port number (dsl0 has port number 0).	REQUIRED
vpi	A number between 0 and 15. Represents the VPI.	REQUIRED
vci	A number between 0 and 511. Represents the VCI. **Note** For a VP cross-connection, use 0 or do not specify.	OPTIONAL

EXAMPLE:

```
=>atm oam vclb add port=dsl0 vpi=0 vci=36
=>atm oam vclb list
PORT = 0 VPI = 0 VCI =  36
=>atm oam vclb add port=dsl1 vpi=0 vci=37
=>atm oam vclb list
PORT = 0 VPI = 0 VCI =  36
PORT = 1 VPI = 0 VCI =  37
=>
```

RELATED COMMANDS:

atm oam vclb del	Delete a loopback connection for VC.
atm oam vclb list	List all VC loopback connections.

atm oam vclb del

Delete a loopback connection for VC.

SYNTAX:

```
atm oam vclb del  port = <{dsl0} or number>
                  vpi = <number{0-15}>
                  [vci = <number{0-511}>]
```

where:

port	The ATM port number. Choose between: ▸ DSL0 Or specify a port number (dsl0 has port number 0).	REQUIRED
vpi	A number between 0 and 15. Represents the VPI.	REQUIRED
vci	A number between 0 and 511. Represents the VCI. **Note** For a VP cross-connection, use 0 or do not specify.	OPTIONAL

EXAMPLE:

```
=>atm oam vclb list
PORT = 0 VPI = 0 VCI =  36
PORT = 1 VPI = 0 VCI =  37
=>atm oam vclb del port=dsl1 vpi=0 vci=37
=>atm oam vclb list
PORT = 0 VPI = 0 VCI =  36
=>
```

RELATED COMMANDS:

atm oam vclb add	Create a loopback connection for VC.
atm oam vclb list	List all VC loopback connections.

atm oam vclb list

List all VC loopback connections.

SYNTAX:

```
atm oam vclb list
```

EXAMPLE:

```
=>atm oam vclb list
PORT = 0 VPI = 0 VCI =  36
PORT = 1 VPI = 0 VCI =  37
=>
```

RELATED COMMANDS:

atm oam vclb add	Create a loopback connection for VC.
atm oam vclb del	Delete a loopback connection for VC.

atm phonebook add

Add a new phonebook entry.

SYNTAX:

```
atm phonebook add   name = <string>
                    addr = <atmchannel : PVC syntax is [port.]vpi.vci
                           port=dsl0 | ...>
```

where:

name	The name of the new phonebook entry. This name can be freely chosen, however two limitations apply: - The name of a phonebook entry intended for the Relayed PPPoA (PPPoA-to-PPTP Relaying) packet service may not start with capital P or capital T - The name of a phonebook entry intended for the PPP-to-DHCP spoofing packet service must start with DHCP (for example DHCP_Spoof01).	REQUIRED
addr	The ATM address for this destination. It is composed of a VPI and a VCI identifying ATM virtual channels. In most cases the values are provided by the Service Provider. Accepted VPI: a number between 0 and 15. Accepted VCI: a number between 0 and 511.	REQUIRED

EXAMPLE:

```
=>atm phonebook list
Name          Use  Address
atm_pvc_0_35 1     0.35
=>atm phonebook add name=RtPPPoA addr=8.35
=>atm phonebook list
Name          Use  Address
atm_pvc_0_35 1     0.35
RtPPPoA       0    8.35
=>
```

RELATED COMMANDS:

atm phonebook delete	Delete an existing phonebook entry.
atm phonebook list	Display the current phonebook.

atm phonebook autolist

Show the auto PVCs.

Auto PVCs are only shown if they are supported by the Central Office DSLAM.

SYNTAX:

```
atm phonebook autolist
```

EXAMPLE:

```
=>atm phonebook autolist
8.35
=>
```

RELATED COMMANDS:

atm phonebook list	Display the current phonebook.

atm phonebook delete

Delete an existing phonebook entry.

This command is only applicable for phonebook entries that are not used (in other words, not configured for any packet service).

SYNTAX:

```
atm phonebook delete  name = <string>
```

where:

name	The name of the phonebook entry to be deleted. **Tip** Use the command **:atm phonebook list** to check whether the entry is in use (*Use=1*) or not (*Use=0*).	REQUIRED

EXAMPLE:

```
=>atm phonebook list
Name         Use  Address
atm_pvc_0_35 1    0.35
RtPPPoA      0    8.35
=>atm phonebook delete name=RtPPPoA
=>atm phonebook list
Name         Use  Address
atm_pvc_0_35 1    0.35
=>
```

RELATED COMMANDS:

atm phonebook add	Add a new phonebook entry.
atm phonebook list	Display the current phonebook.

atm phonebook flush

Flush all the phonebook entries.

1. Phonebook entries that are in use, cannot be flushed.
2. This command does not impact previously saved configurations.

SYNTAX:

```
atm phonebook flush
```

EXAMPLE:

```
=>atm phonebook list
Name         Use  Address
atm_pvc_0_35 1    0.35
RtPPPoA      0    8.35
=>
=>atm phonebook flush
Some phonebook entries are still in use. Entries that are in use cannot be deleted.
=>
=>atm phonebook list
Name         Use  Address
atm_pvc_0_35 1    0.35
=>
```

atm phonebook list

Display the current phonebook.

SYNTAX:

```
atm phonebook list
```

EXAMPLE:

```
=>atm phonebook list
Name         Use  Address
atm_pvc_0_35 1    0.35
RtPPPoA      0    8.35
=>
```

RELATED COMMANDS:

atm phonebook add	Add a new phonebook entry.
atm phonebook autolist	Show the auto PVCs.
atm phonebook delete	Delete an existing phonebook entry.

atm qosbook add

Add a new QoS book entry.

SYNTAX:

```
atm qosbook add  name = <string>
                 [txctd = <string>]
                 [rxctd = <string>]
```

where:

name	The name of the new QoS entry.	REQUIRED
txctd	The name of the Conformance Traffic Descriptor (CTD) for the transmit (upstream) direction.	OPTIONAL
rxctd	The name of the CTD for the receive (downstream) direction.	OPTIONAL

EXAMPLE:

```
=>atm qosbook list
Name             Ref  Tx CTD           Rx CTD
default          3    default          default
=>
```

RELATED COMMANDS:

atm qosbook delete	Delete a QoS book entry.
atm qosbook list	Display the QoS book.

atm qosbook config

Modify the QoS book configuration.

SYNTAX:

```
atm qosbook config  [format = <{bytes | cells}>]
```

where:

format	The input/output format of the QoS book. Choose between: - ***bytes***: the output is shown in Kbits or bytes. - ***cells***: the output is shown in cps or cells. The default is ***bytes***.	OPTIONAL

EXAMPLE:

```
=>atm qosbook ctdlist
Name    Ref Conf     Peak     Sust     Burst    Minrate  Frame    Cdvt     RT           FD
                     (Kbits)  (Kbits)  (bytes)  (Kbits)  (bytes)

default 2   UBR      linerate 0        0        0        0        0        disabled     disabled
=>atm qosbook config format=cells
=>atm qosbook ctdlist
Name    Ref Conf     Peak     Sust     Burst    Minrate  Frame    Cdvt     RT           FD
                     (cps)    (cps)    (cells)  (cps)    (cells)

default 2   UBR      linerate 0        0        0        0        0        disabled     disabled
=>
```

atm qosbook ctdadd

Add a Connection Traffic Descriptor (CTD).

SYNTAX:

```
atm qosbook ctdadd  name = <string>
                    conformance = <{UBR | CBR | VBR }>
                    [peakrate = <number{0-27786}>]
                    [sustrate = <number{0-27786}
                    [maxburst = <number{0-12240}>]
                    [realtime = <{enabled | disabled}>]
```

where:

name	The name of the new CTD.	REQUIRED
conformance	The ATM service conformance definition.	REQUIRED
peakrate	A number between 0 and 27786. Represents the peak rate (in kilobits per second). The default is ***0*** (indicates linerate for UBR).	OPTIONAL
sustrate	A number between 0 and 27786. Represents the sustainable rate (in kilobits per second) (VBR only). The default is ***0***.	OPTIONAL
maxburst	A number between 48 and 12240. Represents the maximum burst size (in bytes) (VBR or GFR). The default is ***0***.	OPTIONAL
realtime	Enable or disable realtime traffic (VBR only). The default is ***disabled***.	OPTIONAL

EXAMPLE:

```
=>atm qosbook ctdadd name=High conformance=CBR peakrate=27786
=>atm qosbook ctdlist
Name     Ref  Conf      Peak      Sust      Burst     Minrate   Frame     Cdvt      RT            FD
                        (Kbits)   (Kbits)   (bytes)   (Kbits)   (bytes)

default  2    UBR       linerate  0         0         0         0         0         disabled      disabled
High     0    CBR       27786     0         0         0         0         0         disabled      disabled
=>
```

IMPORTANT NOTE:

The SpeedTouch™ always rounds up specified burst sizes to a multiple of 48 bytes (a multiple of ATM cells).

Example:

In the example below a burst size of 100 bytes is specified (maxburst=100). The SpeedTouch™ will round up the burst size to the closest matching multiple of 48 bytes, as can be seen when displaying the profile via the command **:atm qosbook ctdlist** (burst=144).

```
=>atm qosbook ctdadd name=Medium conformance=VBR peakrate=27786 sustrate=20000 maxburst=100
=>atm qosbook ctdlist
Name    Ref Conf     Peak     Sust     Burst    Minrate  Frame    Cdvt     RT       FD
                     (Kbits)  (Kbits)  (bytes)  (Kbits)  (bytes)

default 2   UBR      linerate 0        0        0        0        0        disabled disabled
Medium  0   VBR      27786    20000    144      0        0        0        disabled disabled
=>
```

RELATED COMMANDS:

atm qosbook ctddelete	Delete a CTD.
atm qosbook ctdlist	Display all CTDs.

atm qosbook ctddelete

Delete a CTD.

SYNTAX:

```
atm qosbook ctddelete   name = <string>
                        [force = <{disabled | enabled}>]
```

where:

name	The name of the CTD entry to be deleted.	REQUIRED
force	Enable or disable to force delete the entry even when it is still in use. The default is ***disabled***.	OPTIONAL

EXAMPLE:

```
=>atm qosbook ctdlist
Name     Ref Conf     Peak     Sust     Burst    Minrate  Frame    Cdvt     RT           FD
                      (Kbits)  (Kbits)  (bytes)  (Kbits)  (bytes)

default 2   UBR      linerate 0        0        0        0        0        disabled     disabled
High    0   CBR      27786    0        0        0        0        0        disabled     disabled
=>atm qosbook ctddelete name=High
=>atm qosbook ctdlist
Name     Ref Conf     Peak     Sust     Burst    Minrate  Frame    Cdvt     RT           FD
                      (Kbits)  (Kbits)  (bytes)  (Kbits)  (bytes)

default 2   UBR      linerate 0        0        0        0        0        disabled     disabled
=>
```

RELATED COMMANDS:

atm qosbook ctdadd	Add a Connection Traffic Descriptor (CTD).
atm qosbook ctdlist	Display all CTDs.

atm qosbook ctdlist

Display all CTDs.

SYNTAX:

```
atm qosbook ctdlist
```

EXAMPLE:

```
=>atm qosbook ctdlist
Name     Ref Conf      Peak      Sust      Burst     Minrate   Frame     Cdvt      RT            FD
                       (Kbits)   (Kbits)   (bytes)   (Kbits)   (bytes)

default  2   UBR       linerate  0         0         0         0         0         disabled      disabled
High     0   CBR       27786     0         0         0         0         0         disabled      disabled
=>
```

RELATED COMMANDS:

atm qosbook ctdadd	Add a Connection Traffic Descriptor (CTD).
atm qosbook ctddelete	Delete a CTD.

atm qosbook delete

Delete a QoS book entry.

SYNTAX:

```
atm qosbook delete  name = <string>
                    [force = <{disabled | enabled}>]
```

where:

name	The name of the QoS book entry to be deleted.	REQUIRED
force	Enable or disable to force delete the entry even when it is still in use. The default is ***disabled***.	OPTIONAL

EXAMPLE:

```
=>atm qosbook list
Name    Ref Type    TX peak  sust     burst    RX peak  sust     burst    framediscard
                    (Kbits)  (Kbits)  (bytes)  (Kbits)  (Kbits)  (bytes)
default 3   ubr     linerate 0        0        linerate 0        0        disabled
TestVBR 0   vbr-nrt 1500     1000     144      1500     1000     144      enabled
=>atm qosbook delete name=TestVBR
=>atm qosbook list
Name    Ref Type    TX peak  sust     burst    RX peak  sust     burst    framediscard
                    (Kbits)  (Kbits)  (bytes)  (Kbits)  (Kbits)  (bytes)
default 3   ubr     linerate 0        0        linerate 0        0        disabled
=>
```

RELATED COMMANDS:

atm qosbook add	Add a new QoS book entry.
atm qosbook list	Display the QoS book.

atm qosbook flush

Flush all the QoS book entries.

The flush command does not impact previously saved configurations.

SYNTAX:

```
atm qosbook flush
```

atm qosbook list

Display the QoS book.

SYNTAX:

```
atm qosbook list
```

EXAMPLE:

```
=>atm qosbook list
Name    Ref Type    TX peak  sust     burst    RX peak  sust     burst    framediscard
                    (Kbits)  (Kbits)  (bytes)  (Kbits)  (Kbits)  (bytes)
default 3   ubr     linerate 0        0        linerate 0        0        disabled
TestVBR 0   vbr-nrt 1500     1000     144      1500     1000     144      enabled
=>
```

RELATED COMMANDS:

atm qosbook add	Add a new QoS book entry.
atm qosbook delete	Delete a QoS book entry.

AutoPVC Commands

Introduction

This chapter describes the commands of the **autopvc** command group.

Contents

This chapter covers the following commands:

autopvc config

Configure autopvc.

SYNTAX:

```
autopvc config  [mode = <{pseudo | passive | active}>]
                [type = <{bridge | pppoerelay | ipoa | ethoa | pppoa | pppoe}>]
                [overwrite = <{disabled | enabled}>]
                [peakrate = <number{0-27786}>]
```

where:

mode	Select the autopvc mode: - ***pseudo***: only pseudo-ILMI (VP/VC 15/16) is enabled. When the connection parameters are written to the MIB, this information is displayed on CLI or web interface but these parameters are not used for configuration. - ***passive***: both ILMI (VP/VC 0/16) and pseudo-ILMI (VP/VC 15/16) are enabled. When the connection parameters are written to the MIB, this information is displayed on CLI or web interface but these parameters are not used for configuration. - ***active***: both ILMI (VP/VC 0/16) and pseudo-ILMI (VP/VC 15/16) are enabled. When the connection parameters are written to the MIB, these parameters are used to configure phonebook entries, qosbook profiles and bind bridge or PPPoE interfaces on top. The default is ***passive***.	OPTIONAL
type	Select the type of autopvc. Choose between: - ***bridge*** - ***pppoerelay***: an ETHoA interface will be created, will be bound to the ILMI Permanent Virtual Channel (PVC) and will be added to the PPPoE relay as relay port. - ***ipoa*** - ***ethoa*** - ***pppoa*** - ***pppoe***.	OPTIONAL
overwrite	Enable or disable UBR peak rate overwrite. The default is ***disabled***.	OPTIONAL
peakrate	A number between 0 and 27786. Represents the UBR peak rate (in kilobits per second). The default is ***0*** (indicates the linerate).	OPTIONAL

EXAMPLE:

```
=>autopvc config
Autopvc mode     : passive
Autopvc type     :
Autopvc standard: unknown
Autopvc pseudo   : unknown
UBR overwrite    : disabled
UBR peak rate    : linerate
=>
```

autopvc list

Show the retrieved information.

SYNTAX:

```
autopvc list  [table = <{Port | AtmLayer | Vpc | Vcc | Address
                        | AddressRegistrationAdmin | AtmServiceType
                        | AtmServiceConnectionInfo | AAL1Profile |
                        | AAL34Profile | AAL5Profile | AAL2CommonProfile
                        | AAL2TrunkingProfile | AAL2LESProfile
                        | AtmServiceConnInfoExtension |
                        | AtmServiceTypeExtension | AAL5ProfileExtension}>]
```

where:

table	Select the autopvc table for which the information must be shown. Choose between: Port AtmLayer Vpc Vcc Address AddressRegistrationAdmin AtmServiceType AtmServiceConnectionInfo AAL1Profile AAL34Profile AAL5Profile AAL2CommonProfile AAL2TrunkingProfile AAL2LESProfile AtmServiceConnInfoExtension AtmServiceTypeExtension AAL5ProfileExtension.	OPTIONAL

EXAMPLE:

```
=>autopvc list
Address   Type      BestEff       Par1      Par2      Par3      Par4      Par5
8.35      ubr       Enabled  Tx: 451       0         0         0         0
                             Rx: 7923      0         0         0         0
=>
```

Config Commands

Introduction

This chapter describes the commands of the `config` command group.

Contents

This chapter covers the following commands:

config delete

Delete a user configuration file.

SYNTAX:

```
config delete   [filename = <string>]
```

where:

filename	Name of the user configuration file to be deleted. **Note** If not specified, all the user configuration files that were saved in the SpeedTouch™ permanent storage will be deleted.	OPTIONAL

RELATED COMMANDS:

config dump	Show the saved configuration file.

config dump

Show the saved configuration file.

SYNTAX:

```
config dump
```

RELATED COMMANDS:

config delete	Delete a user configuration file.

config flush

Flush the loaded configuration.

1. This flush command combines all the possible flush commands.
2. This command does not affect saved configurations.

SYNTAX:

```
config flush  [flush_ip = <{disabled | enabled}>]
```

where:

flush_ip	Flush IP settings (enabled) or not (disabled). The default is ***disabled***. **Note** Not keeping the IP settings could cause lost IP connectivity in the LAN.	OPTIONAL

config list

Show the current configuration set.

SYNTAX:

```
config list   [templates = <{disabled | enabled}>]
```

where:

templates	List the template files (disabled) or not (enabled). The default is ***disabled***.	OPTIONAL

RELATED COMMANDS:

config load	Load complete saved (backup) or default configuration file.
config save	Store the current configuration in a backup file.

config load

Load complete saved (backup) or default configuration file.

Use the command **:config flush** before loading a configuration file.

SYNTAX:

```
config load   [load_ip = <{disabled | enabled}>]
              [defaults = <{enabled | disabled}>]
              [flush = <{enabled | disabled}>]
              [echo = <{disabled | enabled}>]
              [filename = <string>]
```

where:

load_ip	Load IP settings (enabled) or not (disabled). **Note** Not keeping the IP settings could cause lost IP connectivity in the LAN.	OPTIONAL
defaults	Load default configuration (enabled) or saved configuration (disabled). **Note** If not specified, the saved configuration will be loaded.	OPTIONAL
flush	Flush the current configuration before loading a new configuration (enabled) or not (disabled).	OPTIONAL
echo	Echo each command string when loaded (enabled) or not (disabled).	OPTIONAL
filename	Name of the configuration file to be loaded.	OPTIONAL

EXAMPLE:

```
=>ip rtlist
   Destination        Source         Gateway       Intf     Mtrc
   10.0.0.0/24        10.0.0.0/24    10.0.0.140    eth0     0
   172.16.0.5/32      0.0.0.0/0      172.16.0.5    cip1     0
   10.0.0.140/32      0.0.0.0/0      10.0.0.140    eth0     0
   127.0.0.1/32       0.0.0.0/0      127.0.0.1     loop     0
   172.16.0.0/24      0.0.0.0/0      172.16.0.5    cip1     1
=>config load flush_ip=no
=>ip rtlist
   Destination        Source         Gateway       Intf     Mtrc
   10.0.0.0/24        10.0.0.0/24    10.0.0.140    eth0     0
   10.0.0.140/32      0.0.0.0/0      10.0.0.140    eth0     0
   127.0.0.1/32       0.0.0.0/0      127.0.0.1     loop     0
=>config load flush=yes
=>ip rtlist
   Destination        Source         Gateway       Intf     Mtrc
   10.0.0.0/24        10.0.0.0/24    10.0.0.140    eth0     0
   10.0.0.140/32      0.0.0.0/0      10.0.0.140    eth0     0
   172.16.0.5/32      0.0.0.0/0      172.16.0.5    cip1     0
   127.0.0.1/32       0.0.0.0/0      127.0.0.1     loop     0
   172.16.0.0/24      0.0.0.0/0      172.16.0.5    cip1     1
=>
```

RELATED COMMANDS:

config list	Show the current configuration set.
config save	Store the current configuration in a backup file.

config save

Store the current configuration in a backup file.

All the existing configurations and modifications entered by the user are saved.

The backup file is saved in the SpeedTouch™ permanent storage. This file can be downloaded via the SpeedTouch™ web pages or via an FTP session.

SYNTAX:

```
config save   filename = <string>
```

where:

filename	The filename for the backup file of the current configuration.	REQUIRED

RELATED COMMANDS:

config list	Show the current configuration set.
config load	Load complete saved (backup) or default configuration file.

Connection Commands

Introduction

This chapter describes the commands of the `connection` command group.

Contents

This chapter covers the following commands:

connection appconfig

Configure the available CONN/NAT application helpers.

SYNTAX:

```
connection appconfig  application = <string>
                      [trace = <{disabled | enabled}>]
                      [timeout = <number{0-32000}>]
                      [floating = <{disabled | enabled}>]
                      [tracelevel = <number{1-4}>]
```

where:

application	The name of a CONN/NAT application helper. **Tip** Use the command **`:connection applist`** to obtain a list of CONN/NAT application helpers.	REQUIRED
trace	Enable or disable CONN/NAT application helper traces. The default is ***enabled***.	OPTIONAL
timeout	A number between 0 and 32000 (seconds). Represents the maximum timeout to keep predicted child connections around.	OPTIONAL
floating	Enable / disabled floating port for IKE helper.	OPTIONAL
tracelevel	A number between 1 and 4. Represents the SIP trace level. Choose between: - ***1***: feature errors - ***2***: feature traces - ***3***: all errors - ***4***: all traces. The default is ***1***.	OPTIONAL

EXAMPLE:

```
=>connection applist
Application  Proto DefaultPort Traces       Timeout
IP6TO4       6to4  0           enabled      unavailable
PPTP         tcp   1723        enabled      unavailable
ESP          esp   0           unavailable  15' 0"
IKE          udp   500         disabled     15' 0"       FLOATING
SIP          udp   5060        disabled     6 0"         trace level 1
...
LOOSE(UDP)   udp   0           enabled      5' 0"
FTP          tcp   21          enabled      unavailable
=>connection appconfig application=SIP trace=enabled
=>connection applist
Application  Proto DefaultPort Traces       Timeout
IP6TO4       6to4  0           enabled      unavailable
PPTP         tcp   1723        enabled      unavailable
ESP          esp   0           unavailable  15' 0"
IKE          udp   500         disabled     15' 0"      FLOAATING
SIP          udp   5060        enabled      6 0"         trace level 1
...
LOOSE(UDP)   udp   0           enabled      5' 0"
FTP          tcp   21          enabled      unavailable
=>
```

RELATED COMMANDS:

connection appinfo	Display CONN/NAT application specific info.
connection applist	List the available CONN/NAT application helpers.

connection appinfo

Display CONN/NAT application specific info.

SYNTAX:

```
connection appinfo  application = <{string}>
```

where:

application	The name of a CONN/NAT application helper. **Tip** Use the command `:connection applist` to obtain a list of CONN/NAT application helpers.	REQUIRED

EXAMPLE:

```
=>connection appinfo application=SIP
SIP ALG session SIPALG: pool=138, in use=0, bottom=138

=>
```

RELATED COMMANDS:

connection appconfig	Configure the available CONN/NAT application helpers.
connection applist	List the available CONN/NAT application helpers.

connection applist

List the available CONN/NAT application helpers.

SYNTAX:

```
connection applist
```

EXAMPLE:

```
=>connection applist
Application  Proto DefaultPort Traces       Timeout
IP6TO4       6to4  0           enabled      unavailable
PPTP         tcp   1723        enabled      unavailable
ESP          esp   0           unavailable  15' 0"
IKE          udp   500         disabled     15' 0"      FLOATING
SIP          udp   5060        disabled     6 0"        trace level 1
JABBER       tcp   5222        disabled     2' 0"
CU/SeeMe     udp   7648        enabled      unavailable
RAUDIO(PNA)  tcp   7070        enabled      unavailable
RTSP         tcp   554         enabled      unavailable
ILS          tcp   389         unavailable  5' 0"
H245         tcp   0           unavailable  5' 0"
H323         tcp   1720        enabled      unavailable
IRC          tcp   6667        enabled      5' 0"
LOOSE(UDP)   udp   0           enabled      5' 0"
FTP          tcp   21          enabled      unavailable
=>
```

For some CONN/NAT application helpers, either ***traces*** or ***timeout*** are unavailable.

RELATED COMMANDS:

connection appconfig	Configure the available CONN/NAT application helpers.
connection appinfo	Display CONN/NAT application specific info.

connection bind

Create a new CONN/NAT application helper/port binding.

SYNTAX:

```
connection bind   application = <string>
                  port = <port-range>
```

where:

application	The name of a CONN/NAT application helper. **Tip** Use the command **`:connection applist`** to obtain a list of CONN/NAT application helpers.	REQUIRED
port	The port number or port range this application handler should work on.	REQUIRED

EXAMPLE:

```
=>connection bindlist
Application  Proto Portrange   Flags
JABBER       tcp   15222
JABBER       tcp   5222
FTP          tcp   21
IRC          tcp   6660
...
IP6TO4       6to4  0
=>connection bind application = IRC port = 6750
=>connection bindlist
Application  Proto Portrange
IRC          tcp   6750
JABBER       tcp   15222
JABBER       tcp   5222
FTP          tcp   21
IRC          tcp   6660
...
IP6TO4       6to4  0
=>
```

RELATED COMMANDS:

connection bindlist	List the current CONN/NAT application helper/port bindings.
connection unbind	Delete an existing CONN/NAT application helper/port binding.

connection bindlist

List the current CONN/NAT application helper/port bindings.

SYNTAX:

```
connection bindlist
```

EXAMPLE:

```
=>connection bindlist
Application  Proto Portrange   Flags
LOOSE(UDP)   udp   67
JABBER       tcp   15222
JABBER       tcp   5222
FTP          tcp   21
IRC          tcp   6660-6669
H323         tcp   1720
ILS          tcp   1002
ILS          tcp   389
RTSP         tcp   554
RAUDIO(PNA)  tcp   7070
CU/SeeMe     udp   7648
SIP          udp   5060
IKE          udp   500
ESP          esp   0
PPTP         tcp   1723
IP6TO4       6to4  0
=>
```

RELATED COMMANDS:

connection bind	Create a new CONN/NAT application helper/port binding.
connection unbind	Delete an existing CONN/NAT application helper/port binding.

connection clean

Clean the connection database by forcing timeouts.

SYNTAX:

```
connection clean   [level = <number{0-9}>]
```

where:

level	A number between 0 and 9. Represents the desired scrubbing level. The default is	OPTIONAL

EXAMPLE:

```
=>connection list
ID   proto state       substate    flags  timeout
--   ----- -----       --------    -----  -------
8    tcp   ACTIVE      [TCPS_ESTABLISHED-TCPS_ESTABLISHED] [......] 15' 7"
  INIT: 16   192.168.  1. 64: 1377 192.168.  1.254:    23 [...] LocalNetwork   1390 tcp      0
  RESP: 17   192.168.  1.254:   23 192.168.  1. 64: 1377 [R..]   loop     951 tcp      0
34   tcp   ACTIVE      [TCPS_CLOSE_WAIT-TCPS_FIN_WAIT_1] [I.....] 57' 16"
  INIT: 68   192.168.  1. 64: 1417 192.168.  1.254:    21 [...] LocalNetwork     11 tcp      0
  RESP: 69   192.168.  1.254:   21 192.168.  1. 64: 1417 [R..]   loop      10 tcp      0
=>connection clean
=>connection list
ID   proto state       substate    flags  timeout
--   ----- -----       --------    -----  -------
8    tcp   ACTIVE      [TCPS_ESTABLISHED-TCPS_ESTABLISHED] [......] 14' 59"
  INIT: 16   192.168.  1. 64: 1377 192.168.  1.254:    23 [...] LocalNetwork   1417 tcp      0
  RESP: 17   192.168.  1.254:   23 192.168.  1. 64: 1377 [R..]   loop     967 tcp      0
=>
```

connection clear

Kill all the connections.

SYNTAX:

```
connection clear
```

EXAMPLE:

```
=>connection clear

Connection to host lost.
```

connection config

Configure the connection handling.

SYNTAX:

```
connection config   [configchangemode = <{immediate | delayed}>]
                    [probes = <{disabled | enabled}>]
                    [udptrackmode = <{strict | loose}>]
```

where:

configchangemode	Select how configuration changes are handled. Choose between: - immediate - delayed. The default is ***immediate***.	OPTIONAL
probes	Enable or disable live probes on idle connections. The default is ***disabled***.	OPTIONAL
udptrackmode	Select the User Datagram Protocol (UDP) connection tracking mode. Choose between: - ***strict***: replies to a request from a client must be in a specific window to the client. - ***loose***: inbound packets are allowed on the port that was first used to start the communication with the server (for example to allow a client of an online game to obtain peer-to-peer information from other clients of that same online game). The default is ***strict***.	OPTIONAL

EXAMPLE:

```
=>connection config
config change mode : immediate
alive probes       : disabled
udp tracking mode  : loose
=>
```

connection debug

The connection debug commands

SYNTAX:

```
connection debug    [trace = <{disabled|enabled}>]
```

where:

trace	Enable or disable traces. The default is ***disabled***.	OPTIONAL

EXAMPLE:

```
=>connection debug
connection traces   : disabled
=>
=>connection debug trace enabled
=>
=>connection debug
connection traces   : enabled
=>
```

connection describe

Describe the streams of a connection.

SYNTAX:

```
connection describe   [id = <number{0-2048}>]
```

where:

id — A number between 0 and 2048. — OPTIONAL
Represents the ID of the connection to be described.

Note — If not specified, the connection with ID 0 will be described.

Tip — Use the command **:connection list** to obtain the IDs of the different connections.

EXAMPLE:

```
=>connection list
ID   proto state       substate    flags  timeout
--   ----- -----       --------    -----  -------
62   tcp   ACTIVE      [TCPS_ESTABLISHED-TCPS_ESTABLISHED] [......] 15' 8"
  INIT: 124  192.168.  1. 64: 1979 192.168.  1.254:   23 [...] LocalNetwork    548 tcp     0
  RESP: 125  192.168.  1.254:   23 192.168.  1. 64: 1979 [R..]   loop    396 tcp     0
=>connection describe id=62
ID   proto state       substate    flags  timeout
--   ----- -----       --------    -----  -------
62   tcp   ACTIVE      [TCPS_ESTABLISHED-TCPS_ESTABLISHED] [......] 14' 59"
FW               : cache = valid; FP
IDS              : ...
NAT              : cache = valid; No translation
 INIT: 124  192.168.  1. 64: 1979 192.168.  1.254:   23 [...] LocalNetwork    576 tcp     0
 ROUTING          : cache = valid; FP (gateway 127.0.0.1)
 LABEL            : cache = valid; FP (no route label); FP (QoS label Interactive)
 IPQOS            : cache = valid; FP (label <no meter>, intf <no meter>)
 TRIGGER          : cache = valid; FP (no trigger)
 RESP: 125  192.168.  1.254:   23 192.168.  1. 64: 1979 [R..]   loop    412 tcp     0
 ROUTING          : cache = valid; FP (gateway 192.168.1.254)
 LABEL            : cache = valid; FP (no route label); FP (QoS label default)
 IPQOS            : cache = valid; FP (label <no meter>, intf <no meter>)
 TRIGGER          : cache = valid; FP (no trigger)
=>
```

connection flush

Flush the current connection configuration.

SYNTAX:

```
connection flush
```

connection info

Show all the registered modules with some info.

SYNTAX:

```
connection info
```

EXAMPLE:

```
=>connection info
Registered connection modules :
  - Module : FW, holds private data (F:10264 S:6592).
  - Module : IDS, holds private data (F:0 S:0).
  - Module : NAT, holds private data (F:0 S:0).
Registered stream modules :
  - Module : ROUTING, holds private data (F:10199 S:6657).
  - Module : LABEL, holds private data (F:22546 S:19870).
  - Module : IPQOS, holds private data (F:10202 S:6653).
  - Module : TRIGGER, holds private data (F:10202 S:6659).
=>
```

connection list

Display the currently known connections.

SYNTAX:

```
connection list   [nr = <number{1-2048}>]
                  [history = <{disabled|enabled}>]
```

where:

nr	A number between 1 and 2048. Represents the number of connections to be displayed. **Note** If not specified, all the connections will be displayed.	OPTIONAL
history	Enable or disable history display. The default is ***disabled***.	OPTIONAL

EXAMPLE:

```
=>connection list
ID   proto state       substate    flags  timeout
--   ----- -----       --------    -----  -------
58   tcp   ACTIVE      [TCPS_ESTABLISHED-TCPS_ESTABLISHED] [......] 15' 7"
  INIT: 116   10.  0.  0.  1: 1106  10.  0.  0.138:   23 [.]   eth0    331 tcp   0
  RESP: 117   10.  0.  0.138:   23  10.  0.  0.  1: 1106 [R]   loop    229 tcp   0
=>
```

connection refresh

Invalidate all the cached decisions.

SYNTAX:

```
connection refresh
```

connection stats

Display the connection and stream statistics.

SYNTAX:

```
connection stats
```

EXAMPLE:

```
=>connection stats
Connection statistics:
-------------------------------------------
Maximum number of connections             : 1024
Maximum number of halfopen connections    : 1024
-------------------------------------------
Number of active connections              : 3
Number of halfopen connections            : 0
Number of expected connections            : 0
Number of closing connections             : 0
Number of idle connections                : 1
-------------------------------------------
Number of TCP connections                 : 2
Number of UDP connections                 : 1
Number of ICMP connections                : 0
Number of non TCP/UDP/ICMP connections    : 0
-------------------------------------------
Number of TCP open connections            : 0
Number of TCP established connections     : 1
Number of TCP closing connections         : 1

Stream cache statistics:
-------------------------------------------
Maximum number of hash collisions         : 0
% of hash entries with collisions         : 0.00
% of hash entries unused                  : 0.00

CONN/NAT application helper statistics:
-------------------------------------------
Maximum number of helper bindings         : 24
Maximum number of connections with helper : 128
-------------------------------------------
Number of helper bindings                 : 16
Number of connections with active helper  : 0
=>
```

connection timerclear

Clear the connection timeout to default.

SYNTAX:

```
connection timerclear  [timer = <{tcpidle|tcpneg|tcpkill|udpidle|udpkill|
                                  icmpkill|ipidle|ipkill}>]
```

where:

timer	The name of the connection idle timer to be reset.	REQUIRED
	Note If not specified, all the timers will be reset to their default values.	

EXAMPLE:

```
=>connection timerconfig
tcpidle          : 10' 30"
tcpneg           : 3' 0"
udp              : 1' 19"
icmp             : 2' 0"
ip               : 1' 0"
=>connection timerclear
=>connection timerconfig
tcpidle          : 15' 0"
tcpneg           : 2' 0"
udp              : 1' 0"
icmp             : 1' 0"
ip               : 1' 0"
=>
```

RELATED COMMANDS:

connection timerconfig	Configure the connection timeout handling.

connection timerconfig

Configure the connection timeout handling.

SYNTAX:

```
connection timerconfig   [timer = <{tcpidle|tcpneg|tcpkill|udpidle|udpkill|
                                    icmpkill|ipidle|ipkill}>]
                         [value = <number{1-86400}>]
```

where:

timer	The name of the connection idle timer ot be configured. Choose between: - tcpidle - tcpneg - tcpkill - udpidle - udpkill - icmpkill - ipidle - ipkill	OPTIONAL
value	A number between 0 and 86400 (seconds). Represents the timer expire value.	OPTIONAL

EXAMPLE:

```
=>connection timerconfig
tcpidle           : 15' 0"
tcpneg            : 2' 0"
udp               : 1' 0"
icmp              : 1' 0"
ip                : 1' 0"
=>connection timerconfig timer=tcpidle value=360
=>connection timerconfig
tcpidle           : 6' 0"
tcpneg            : 2' 0"
udp               : 1' 0"
icmp              : 1' 0"
ip                : 1' 0"
=>
```

RELATED COMMANDS:

connection timerclear	Clear the connection timeout to default.

connection unbind

Delete an existing CONN/NAT application helper/port binding.

SYNTAX:

```
connection unbind  application = <string>
                   port = <port-range>
```

where:

application	The name of a CONN/NAT application helper. **Tip** Use the command `:connection applist` to obtain a list of CONN/NAT application helpers.	REQUIRED
port	The port number or port range this application handler should work on.	REQUIRED

EXAMPLE:

```
=>connection bindlist
Application  Proto Portrange
IRC          tcp   6750
JABBER       tcp   15222
JABBER       tcp   5222
FTP          tcp   21
IRC          tcp   6660
...
IP6TO4       6to4  0
=>connection unbind application=IRC port=6750
=>connection bindlist
Application  Proto Portrange
JABBER       tcp   15222
JABBER       tcp   5222
FTP          tcp   21
IRC          tcp   6660
...
IP6TO4       6to4  0
=>
```

RELATED COMMANDS:

connection bind	Create a new CONN/NAT application helper/port binding.
connection bindlist	List the current CONN/NAT application helper/port bindings.

Debug Commands

Introduction

This chapter describes the commands of the **debug** command group.

Contents

This chapter covers the following commands:

debug exec

Execute a 'Trace & Debug' command.

This command is for qualified personnel only.

SYNTAX:

```
debug exec   cmd = <quoted string>
```

where:

cmd	A quoted 'Trace & Debug' command string.	REQUIRED

DHCP Commands

Introduction

This chapter describes the commands of the Dynamic Host Configuration Protocol (DHCP) command group.

Contents

This chapter covers the following commands:

dhcp client flush

Delete all the DHCP leases attached to dynamic interfaces.

The flush command does not impact previously saved configurations.

SYNTAX:

```
dhcp client flush
```

dhcp client ifadd

Create a DHCP lease for a specific interface.

SYNTAX:

```
dhcp client ifadd  intf = <string>
```

where:

intf	The name of the dynamic interface for which a DHCP lease must be created.	REQUIRED

EXAMPLE:

```
=>dhcp client iflist
No dynamic interfaces defined.
=>dhcp client ifadd intf=myPPP_ppp
[dhcp client]=>iflist
myPPP_ppp : [INIT]
            flags = uc dns rt
            IP address : 0.0.0.0
            HW address [SpeedTouch] : 00
            DHCP server: 255.255.255.255
            metric : rt = 1, DNS = 1

Number of leases: 1
Total size of table: 36, in use: 1, free: 97 %
=>
```

RELATED COMMANDS:

dhcp client ifdelete	Deletes a DHCP lease attached to a dynamic interface.
dhcp client iflist	List all the DHCP leases attached to dynamic interfaces.

dhcp client ifattach

Attach a DHCP lease to a dynamic interface.

SYNTAX:

```
dhcp client ifattach  intf = <string>
```

where:

intf	The name of the dynamic interface.	REQUIRED

EXAMPLE:

```
=>dhcp client iflist
myPPP_ppp : [INIT]
            flags = bc dns rt
            IP address : 0.0.0.0
            HW address [SpeedTouch] : 00
            DHCP server: 255.255.255.255
            metric : rt = 1, DNS = 1

Number of leases: 1
Total size of table: 36, in use: 1, free: 97 %
=>dhcp client ifattach intf=myPPP_ppp
=>dhcp client iflist
myPPP_ppp : [SELECTING]
            flags = bc dns rt
            IP address : 0.0.0.0
            HW address [SpeedTouch] : 00
            DHCP server: 255.255.255.255
            metric : rt = 1, DNS = 1
            trying to get a lease for 1 sec
            transmission of DISCOVER in 0 sec
            retransmission timeout: 4
            nbr of retransmissions: 2

Number of leases: 1
Total size of table: 36, in use: 1, free: 97 %
=>
```

RELATED COMMANDS:

dhcp client ifrelease	Release a DHCP lease attached to a dynamic interface.
dhcp client ifrenew	Renew the DHCP lease of a dynamic interface.

dhcp client ifconfig

Configure a DHCP lease created for a specific interface.

Use the command `:dhcp client ifrelease` before configuring the dhcp client.

SYNTAX:

```
dhcp client ifconfig  intf = <string>
                      [clientid = <clientid | none>]
                      [hostname = <hostname | "">]
                      [vendor = <quoted string>]
                      [userid = <quoted string>]
                      [addr = <ip-address>]
                      [leasetime = <number>]
                      [domain = <{disabled | enabled}>]
                      [dns = <{disabled | enabled}>]
                      [statrt = <{disabled | enabled}>]
                      [gateway = <{disabled | enabled}>]
                      [metric = <number{0-100}>]
                      [dnsmetric = <number{0-100}>]
```

where:

intf	The name of the dynamic interface to be configured.	REQUIRED
clientid	The client identity to be associated with the lease. **Note** Use *none* in case no clientid should be associated with this lease.	OPTIONAL
hostname	The host name of the client to be associated with the lease. **Note** Use *""* in case no hostname should not be associated with this lease.	OPTIONAL
vendor	The vendor class identifier option to be associated with the lease.	OPTIONAL
userid	The user class identifier option to be associated with the lease.	OPTIONAL
addr	The preferred dynamic IP address.	OPTIONAL
leasetime	A number (of seconds). Represents the time in seconds the client wants to use an address. The default is ***7200 (2 hours)***. **Note** Specifying 0 makes the lease permanent.	OPTIONAL
domain	Accept domain name (enabled) or not (disabled). The default is ***disabled***.	OPTIONAL
dns	Accept DNS server IP addresses (enabled) or not (disabled). The default is ***enabled***.	OPTIONAL
statrt	Accept static routes (enabled) or not (disabled). The default is ***enabled***.	OPTIONAL
gateway	Accept gateway IP addresses (enabled) or not (disabled). The default is ***disabled***.	OPTIONAL
metric	A number between 0 and 100. Represents the route metric for default gateway and static routes. The default is ***1***.	OPTIONAL

dnsmetric	A number between 0 and 100. Represents the DNS route metric. The default is ***1***.	OPTIONAL

EXAMPLE:

```
=>dhcp client iflist
myPPP_ppp : [SELECTING]
            flags = bc dns rt
            IP address : 0.0.0.0
            HW address [SpeedTouch] : 00
            DHCP server: 255.255.255.255
            metric : rt = 1, DNS = 1
            trying to get a lease for 1 sec
            transmission of DISCOVER in 0 sec
            retransmission timeout: 4
            nbr of retransmissions: 2

Number of leases: 1
Total size of table: 36, in use: 1, free: 97 %
=>dhcp client ifconfig intf=myPPP_ppp clientid=myClientID hostname=myHostName userid=myUserID addr
=10.0.0.1 leasetime=0
=>dhcp client iflist
myPPP_ppp : [INIT]
            flags = bc dns rt
            IP address : 10.0.0.1
            HW address [SpeedTouch] : 00:90:d0:01:47:f1
            DHCP server: 10.10.1.1
            hostname : myHostName
            client identifier : [00] myClientID
            user class identifier : myUserID
            metric : rt = 1, DNS = 1

Number of leases: 1
Total size of table: 36, in use: 1, free: 97 %
=>
```

dhcp client ifdelete

Deletes a DHCP lease attached to a dynamic interface.

SYNTAX:

```
dhcp client ifdelete  intf = <string>
```

where:

intf	The name of the dynamic interface for which the DHCP lease must be deleted.	REQUIRED

EXAMPLE:

```
=>dhcp client iflist
myPPP_ppp : [INIT]
            flags = bc dns rt
            IP address : 10.0.0.1
            HW address [SpeedTouch] : 00:90:d0:01:47:f1
            DHCP server: 10.10.1.1
            hostname : myHostName
            client identifier : [00] myClientID
            user class identifier : myUserID
            metric : rt = 1, DNS = 1

Number of leases: 1
Total size of table: 36, in use: 1, free: 97 %
=>dhcp client ifdelete intf=myPPP_ppp
=>dhcp client iflist
No dynamic interfaces defined.
=>
```

RELATED COMMANDS:

dhcp client ifadd	Create a DHCP lease for a specific interface.
dhcp client iflist	List all the DHCP leases attached to dynamic interfaces.

dhcp client iflist

List all the DHCP leases attached to dynamic interfaces.

SYNTAX:

```
dhcp client iflist
```

EXAMPLE:

```
=>dhcp client iflist
myPPP_ppp : [INIT]
            flags = bc dns rt
            IP address : 10.0.0.1
            HW address [SpeedTouch] : 00:90:d0:01:47:f1
            DHCP server: 10.10.1.1
            hostname : myHostName
            client identifier : [00] myClientID
            user class identifier : myUserID
            metric : rt = 1, DNS = 1

Number of leases: 1
Total size of table: 36, in use: 1, free: 97 %
=>
```

EXAMPLE INPUT/OUTPUT IN A NETWORKED ENVIRONMENT:

The SpeedTouch™ is configured as DHCP client disabled its Ethernet interface eth0.

```
=>dhcp client iflist
myPPP_ppp : [INIT]
            flags = bc dns rt
            IP address : 10.0.0.1
            HW address [SpeedTouch] : 00:90:d0:01:47:f1
            DHCP server: 10.10.1.1
            hostname : myHostName
            client identifier : [00] myClientID
            user class identifier : myUserID
            metric : rt = 1, DNS = 1
            lease renewal in      5  days, 1  h, 26 min, 45 sec
            lease rebinding in    8  days, 20 h, 34 min, 15 sec
            lease expires in      10 days, 2  h, 56 min, 45 sec
Number of leases:  1
Total size of table: 36, in use: 1, free: 97 %
=>
```

RELATED COMMANDS:

dhcp client ifadd	Create a DHCP lease for a specific interface.
dhcp client ifdelete	Deletes a DHCP lease attached to a dynamic interface.

dhcp client ifrelease

Release a DHCP lease attached to a dynamic interface.

SYNTAX:

```
dhcp client ifrelease  intf = <string>
```

where:

intf	The name of the dynamic interface for which the DHCP lease must be released.	REQUIRED

EXAMPLE 1:

```
=>dhcp client iflist
NewETHoA    :  [SELECTING]
             flags=  uc
             IP address      :  10.0.0.10
             HW address      :  00:90:d0:01:47:de
             DHCP server     :  255.255.255.255
             hostname        :  NewLease
             req.leasetime   =  10800 s
             trying to get a lease for 8 min, 32 sec
             transmission of DISCOVER in 57 sec
             retransmission timeout:  64
             nbr of retransmissions:  14
Number of leases:  1
Total size of table: 19,   in use: 1,   free: 94 %
=>dhcp client ifattach intf=NewETHoA
=>dhcp client iflist
NewETHoA    :  [SELECTING]
             flags=  uc
             IP address      :  0.0.0.0
             HW address      :  00:90:d0:01:47:de
             DHCP server     :  255.255.255.255
             hostname        :  NewLease
             req.leasetime   =  10800 s
Number of leases:  1
Total size of table: 19,   in use: 1,   free: 94 %
=>
```

EXAMPLE 2:

The SpeedTouch™ is configured as DHCP client disabled its Ethernet interface eth0.

```
=>dhcp client iflist
eth0      :  [BOUND]
             flags=  uc
             IP address    :  10.0.0.3
             HW address    :  00:90:d0:01:47:f1
             DHCP server   :  10.10.1.1
             lease renewal in      5  days, 58 min, 45 sec
             lease rebinding in    8  days, 20 h, 6  min, 18 sec
             lease expires in      10 days, 2  h, 28 min, 48 sec
Number of leases:  1
Total size of table: 18,   in use: 1,   free: 94 %
=>dhcp client stats
DHCP client statistics:
Corrupted packet recv   :                0
DECLINEs sent           :                0
RELEASEs  sent          :                0
INFORMs   sent          :                0
Number of dynamic interfaces:  1
Memory usage:
Table size of dyn leases: 19,   in use: 1,   free: 94 %
=>dhcp client ifrelease intf=eth0
=>(CTRL + Q)
=>STATE ACTIVATE !
STATE IDLE !
STATE ACTIVATE !
dhcc: intf 1  releases 10.0.0.3 to server 10.10.1.1.
dhcc: 10.0.0.3 deleted: ok.
STATE IDLE !
STATE ACTIVATE !
.............
dhcc: intf 1 in init state.
n_send() broadcast triggered; To be verified
dhcc: broadcast discover disabled intf 1.
=>(CTRL + S)
=>dhcp client stats
DHCP client statistics:
Corrupted packet recv   :                0
DECLINEs sent           :                0
RELEASEs  sent          :                1
INFORMs   sent          :                0
Number of dynamic interfaces:  1
Memory usage:
Table size of dyn leases: 19,   in use: 1,   free: 94 %
=>
```

RELATED COMMANDS:

dhcp client ifattach	Attach a DHCP lease to a dynamic interface.
dhcp client ifrenew	Renew the DHCP lease of a dynamic interface.

dhcp client ifrenew

Renew the DHCP lease of a dynamic interface.

SYNTAX:

```
dhcp client ifrenew  intf = <string>
```

where:

intf	The name of the dynamic interface for which the DHCP lease must be renewed.	REQUIRED

EXAMPLE 1:

```
=>dhcp client iflist
NewETHoA     :  [BOUND]
             flags=  uc
             IP address    :  10.0.0.10
             HW address    :  00:90:d0:01:47:f1
             DHCP server   :  255.255.255.255
             hostname      :  NewLease
             req.leasetime =  10800 s
             lease renewal in      5  days, 58 min, 48 sec
             lease rebinding in    8  days, 20 h, 6  min, 18 sec
             lease expires in      10 days, 2  h, 28 min, 48 sec
Number of leases:  1
Total size of table: 19,   in use: 1,   free: 94 %
=>dhcp client ifrenew intf=NewETHoA
=>dhcp client iflist
NewETHoA     :  [SELECTING]
             flags=  uc
             IP address      :  10.0.0.10
             HW address      :  00:90:d0:01:47:de
             DHCP server     :  255.255.255.255
             hostname        :  NewLease
             req.leasetime   =  10800 s
             trying to get a lease for 12 sec
             transmission of DISCOVER in 24 sec
             retransmission timeout:  64
             nbr of retransmissions:  11
Number of leases:  1
Total size of table: 19,   in use: 1,   free: 94 %
=>
```

EXAMPLE 2:

The SpeedTouch™ is configured as DHCP client disabled its Ethernet interface eth0.

```
=>dhcp client stats
DHCP client statistics:
Corrupted packet recv   :               0
OFFERs      recv        :               0
ACKs      recv          :               0
NAKs      recv          :               0
Pure BOOTP REPLIES      :               0
Other message types     :               0
DISCOVERs sent          :               0
REQUESTs sent           :               0
DECLINEs sent           :               0
RELEASEs   sent         :               1
INFORMs    sent         :               0
Number of dynamic interfaces:  1
Memory usage:
Table size of dyn leases: 18,   in use: 1,   free: 94 %
=>dhcp client ifrenew intf=eth0
=>dhcp client stats
DHCP client statistics:
Corrupted packet recv   :               0
OFFERs      recv        :               1
ACKs      recv          :               1
NAKs      recv          :               0
Pure BOOTP REPLIES      :               0
Other message types     :               0
DISCOVERs sent          :               1
REQUESTs sent           :               1
DECLINEs sent           :               0
RELEASEs   sent         :               1
INFORMs    sent         :               0
Number of dynamic interfaces:  1
Memory usage:
Table size of dyn leases: 18,   in use: 1,   free: 94 %
=>(CTRL + Q)
..................
STATE IDLE !
STATE ACTIVATE !
dhcc: intf 1 renews lease 10.0.0.3.
dhcc: intf 1 requests 10.0.0.3 from 10.10.1.1
dhcc: 10.10.1.1 acks 10.0.0.3 to intf 1.
dhcc: lease 10.0.0.3 bound to intf 1.
STATE IDLE !
STATE ACTIVATE !
..........
=>(CTRL + S)
```

RELATED COMMANDS:

dhcp client ifattach	Attach a DHCP lease to a dynamic interface.
dhcp client ifrelease	Release a DHCP lease attached to a dynamic interface.

dhcp client debug clear

Clear the DHCP client statistics.

SYNTAX:

```
dhcp client debug clear
```

EXAMPLE:

```
=>dhcp client debug stats
DHCP client statistics:
Corrupted packet recv   :  0
OFFERs     recv         :  0
ACKs     recv           :  0
NAKs     recv           :  0
Pure BOOTP REPLIES      :  0
Other message types     :  0
DISCOVERs sent          :  253
REQUESTs sent           :  9
DECLINEs sent           :  0
RELEASEs  sent          :  0
INFORMs   sent          :  0
Number of dynamic interfaces:  1
Memory usage:
Table size of dyn leases: 19,  in use: 1,  free: 94 %
=>dhcp client debug clear
=>dhcp client debug stats
DHCP client statistics:
Corrupted packet recv   :  0
OFFERs     recv         :  0
ACKs     recv           :  0
NAKs     recv           :  0
Pure BOOTP REPLIES      :  0
Other message types     :  0
DISCOVERs sent          :  0
REQUESTs sent           :  0
DECLINEs sent           :  0
RELEASEs  sent          :  0
INFORMs   sent          :   0
Number of dynamic interfaces:  1
Memory usage:
Table size of dyn leases: 19,  in use: 1,  free: 94 %
=>
```

RELATED COMMANDS:

dhcp client debug stats	Print the DHCP client statistics.

dhcp client debug stats

Print the DHCP client statistics.

SYNTAX:

```
dhcp client debug stats
```

EXAMPLE:

```
=>dhcp client debug stats
DHCP client statistics:
Corrupted packet recv   :               0
OFFERs     recv         :               1
ACKs     recv           :               1
NAKs     recv           :               0
Pure BOOTP REPLIES      :               0
Other message types     :               0
DISCOVERs sent          :               244
REQUESTs sent           :               9
DECLINEs sent           :               0
RELEASEs  sent          :               1
INFORMs   sent          :               0
Number of dynamic interfaces:  1
Memory usage:
Table size of dyn leases: 19,   in use: 1,   free: 94 %
=>
```

RELATED COMMANDS:

dhcp client debug clear	Clear the DHCP client statistics.

dhcp client debug traceconfig

Modify the DHCP client trace configuration.

SYNTAX:

```
dhcp client debug traceconfig  [state = <{disabled | enabled}>]
```

where:

state	Enable or disable tracing. The default is ***disabled***.	OPTIONAL

EXAMPLE:

```
=>dhcp client debug traceconfig
tracing: disabled
=>dhcp client debug traceconfig trace=enabled
=>dhcp client debug traceconfig
tracing: enabled
=>
```

dhcp relay add

Add an entry to the DHCP forward list.

SYNTAX:

```
dhcp relay add  name = <string>
```

where:

name	The forward entry name.	REQUIRED

RELATED COMMANDS:

dhcp relay delete	Delete an entry from the DHCP forward list.
dhcp relay list	List the DHCP forward list.
dhcp relay modify	Modify an entry from the DHCP forward list.

dhcp relay debug stats

Show the DHCP relay statistics.

SYNTAX:

```
dhcp relay debug stats
```

EXAMPLE:

```
=>dhcp relay debug stats
  DHCP relay statistics
-------------------------
Client packet relayed   :         64
Server packet relayed   :          0
Bogus relay agent       :          0
Bogus giaddr recv       :          0
Corrupt agent option    :          0
Missing agent option    :          0
Bad circuit id          :          0
Missing circuit id      :          0
=>
```

RELATED COMMANDS:

dhcp relay debug traceconfig	Modify the DHCP relay trace configuration.

dhcp relay debug traceconfig

Modify the DHCP relay trace configuration.

SYNTAX:

```
dhcp relay debug traceconfig  [state = <{disabled | enabled}>]
```

where:

state	Enable or disable tracing. The default is ***disabled***.	OPTIONAL

EXAMPLE:

```
=>dhcp relay debug traceconfig
Tracing: disabled
=>
```

RELATED COMMANDS:

dhcp relay debug stats	Show the DHCP relay statistics.

dhcp relay config

Set the DHCP relay configuration settings.

SYNTAX:

```
dhcp relay config  [agentinfo = <{disabled | enabled}>]
                   [agentmismatch = <{disabled | enabled}>]
```

where:

agentinfo	Set the relay agent info status (RFC3046) enabled or disabled. The default is ***disabled***.	OPTIONAL
agentmismatch	Forward/drop DHCP reply packet when a relay agent info mismatch is detected (RFC3046) (enabled) or not (disabled). The default is ***disabled***.	OPTIONAL

EXAMPLE:

```
=>dhcp relay config
Agent info status : disabled
Drop agent info mismatch status : disabled
=>dhcp relay config agentinfo=enabled
=>dhcp relay config
Agent info status : enabled
Drop agent info mismatch status : disabled
=>
```

dhcp relay delete

Delete an entry from the DHCP forward list.

SYNTAX:

```
dhcp relay delete  name = <string>
```

where:

name	The forward entry name.	REQUIRED

EXAMPLE:

```
=>dhcp relay delete
name = lan1_to_127.0.0.1
:dhcp relay delete name=lan1_to_127.0.0.1
=>
```

RELATED COMMANDS:

dhcp relay add	Add an entry to the DHCP forward list.
dhcp relay list	List the DHCP forward list.
dhcp relay modify	Modify an entry from the DHCP forward list.

dhcp relay flush

Flush the DHCP relay settings.

The flush command does not impact previously saved configurations.

SYNTAX:

```
dhcp relay flush
```

EXAMPLE:

```
=>dhcp relay list
  DHCP server       Interface         giaddr
-------------------------------------------------------
  127.0.0.1         eth0              192.168.1.254
=>dhcp relay flush
=>dhcp relay list
No dynamic interfaces defined.
=>
```

dhcp relay ifconfig

Configure a DHCP relay interface.

SYNTAX:

```
dhcp relay ifconfig  intf = <string>
                     [relay = <{disabled | enabled}>]
                     [maxhops = <number{0-16}>]
                     [remoteid = <password>]
                     [trusted = <{disabled | enabled}>]
```

where:

intf	The name of the dynamic interface to be configured.	REQUIRED
relay	Set the relay status to enabled or disabled. The default is ***disabled***.	OPTIONAL
maxhops	A number between 0 and 16. Represents the maximum number of hops allowed in the DHCP packet. The default is ***4***.	OPTIONAL
remoteid	Set the remote ID as specified in RFC3046.	OPTIONAL
trusted	Drop/forward DHCP request packet when the DHCP Relay Agent Option is enabled (with the command **:dhcp relay config agentinfo=enabled**) and the giaddr field is 0 (RFC3046)) (enabled) or not (disabled). The default is ***disabled***.	OPTIONAL

EXAMPLE:

```
=>dhcp relay iflist
eth0  :
     admin state = up    oper state = up
     max hops = 4
     trusted = disabled    remote id =

Internet_trigger :
     admin state = down    oper state = down
     max hops = 4
     trusted = disabled    remote id =

Internet  :
     admin state = down    oper state = down
     max hops = 4
     trusted = disabled    remote id =

=>dhcp relay ifconfig intf=Internet_trigger relay=enabled trusted=enabled
=>dhcp relay iflist
eth0  :
     admin state = up    oper state = up
     max hops = 4
     trusted = disabled    remote id =

Internet_trigger :
     admin state = up    oper state = up
     max hops = 4
     trusted = enabled    remote id =

Internet  :
     admin state = down    oper state = down
     max hops = 4
     trusted = disabled    remote id =

=>
```

dhcp relay iflist

Show the configuration of the relay interfaces.

SYNTAX:

```
dhcp relay iflist  [intf = <string>]
```

where:

intf	The name of the dynamic interface to be listed. **Note** If not specified, all the relay interfaces will be shown.	OPTIONAL

EXAMPLE:

```
=>dhcp relay iflist
eth0 :
    admin state = up    oper state = up
    max hops = 4
    trusted = disabled    remote id =

Internet_trigger :
    admin state = up    oper state = up
    max hops = 4
    trusted = enabled    remote id =

Internet :
    admin state = down    oper state = down
    max hops = 4
    trusted = disabled    remote id =

=>
```

dhcp relay list

List the DHCP forward list.

SYNTAX:

```
dhcp relay list        [name = <string>]
```

where:

name	The forward entry name.	OPTIONAL

EXAMPLE:

```
=>dhcp relay list
  DHCP server        Interface          giaddr
-------------------------------------------------------
  127.0.0.1          eth0               10.0.0.138
=>
```

RELATED COMMANDS:

dhcp relay add	Add an entry to the DHCP forward list.
dhcp relay delete	Delete an entry from the DHCP forward list.
dhcp relay modify	Modify an entry from the DHCP forward list.

dhcp relay modify

Modify an entry from the DHCP forward list.

SYNTAX:

```
dhcp relay modify     name = <string>
                      [addr = <ip-address>]
                      [intf = <{None | guest1 | dmz1 | wan1 | lan1 |
                      Internet}>]
                      [giaddr = <ip-address>]
                      [script = <>]
```

where:

name	The forward entry name.	REQUIRED
addr	The DHCP server IP address.	OPTIONAL
intf	The name of the relay interface, ‘None’ to indicate no interface is specified. The standard is ***None***.	OPTIONAL
giaddr	The giaddr field to be used in relayed DHCP packets.	OPTIONAL
script	Script to be run when the forward entry is hit.	OPTIONAL

RELATED COMMANDS:

dhcp relay add	Add an entry to the DHCP forward list.
dhcp relay delete	Delete an entry from the DHCP forward list.
dhcp relay list	List the DHCP forward list.

dhcp relay ruleadd

Add a selection rule to a DHCP forward entry.

SYNTAX:

`dhcp relay ruleadd`	`name = <string>`
	`[key = <{or | and}>]`
	`rulename = <string>`

where:

name	The name of the forward entry.	REQUIRED
key	The logical key of the selection rule. The default is ***or***.	OPTIONAL
rulename	The name of the DHCP selection rule.	REQUIRED

RELATED COMMANDS:

dhcp relay ruledelete	Delete a selection rule from a DHCP forward entry.

dhcp relay ruledelete

Delete a selection rule from a DHCP forward entry.

SYNTAX:

`dhcp relay ruledelete`	`name = <string>`
	`rulename = <string>`

where:

name	The name of the forward entry.	REQUIRED
rulename	The name of the DHCP selection rule.	REQUIRED

RELATED COMMANDS:

dhcp relay ruleadd	Add a selection rule to a DHCP forward entry.

dhcp rule add

Add a rule for DHCP conditional selection.

SYNTAX:

```
dhcp rule add   name = <string>
                type = <{vci | uci | mac}>
                vci [!]= <quoted string>
                uci [!]= <quoted string>
                mac [!]= <hardware-address with wildcard
                            | ex: '00:9f:aa:*:*:*'>
```

If a value is preceded by a “!”, it means NOT.
For example “mac=!00:9f:aa:bb:cc:dd” means “for MAC address different from 00:9f:aa:bb:cc:dd”.

where:

name	The name of the new DHCP rule.	REQUIRED
type	Specify the DHCP rule type. Choose between: ▶ ***vci***: vendor class identifier ▶ ***uci***: user class identifier ▶ ***mac***: MAC address.	REQUIRED
vci	The vendor class identifier string. **Note** Only required when type=vci.	REQUIRED
uci	The user class identifier string. **Note** Only required when type=uci.	REQUIRED
mac	The MAC address. **Note** Only required when type=mac.	REQUIRED

EXAMPLE:

```
=>dhcp rule add
name = new
type = vci
vci = test
:dhcp rule add name=new type=vci vci=test
=>
```

RELATED COMMANDS:

dhcp rule delete	Delete a DHCP rule.
dhcp rule flush	Flush all DHCP rules.
dhcp rule list	List all DHCP rules.

dhcp rule debug traceconfig

Modify DHCP rule trace configuration.

SYNTAX:

`dhcp rule debug traceconfig`	`[state = {disabled | enabled}]`

where:

state	Set tracing to disabled or enabled. The default is ***disabled***.	OPTIONAL

dhcp rule delete

Delete a DHCP rule.

SYNTAX:

`dhcp rule delete`	`name = <string>`

where:

name	The name of the DHCP rule.	REQUIRED

EXAMPLE:

```
=>dhcp rule delete
name = new
:dhcp rule delete name=new
=>
```

RELATED COMMANDS:

dhcp rule add	Add a rule for DHCP conditional selection.
dhcp rule flush	Flush all DHCP rules.
dhcp rule list	List all DHCP rules.

dhcp rule flush

Flush all DHCP rules.

SYNTAX:

```
dhcp rule flush
```

EXAMPLE:

```
=>dhcp rule list
Name                       Use   Value
new                        0     vci=test
=>dhcp rule flush
=>dhcp rule list
Name                       Use   Value
=>
```

RELATED COMMANDS:

dhcp rule add	Add a rule for DHCP conditional selection.
dhcp rule delete	Delete a DHCP rule.
dhcp rule list	List all DHCP rules.

dhcp rule list

List all DHCP rules.

SYNTAX:

```
dhcp rule list
```

EXAMPLE:

```
=>dhcp rule list
Name                    Use   Value
new                     0     vci=test
=>
```

RELATED COMMANDS:

dhcp rule add	Add a rule for DHCP conditional selection.
dhcp rule delete	Delete a DHCP rule.
dhcp rule flush	Flush all DHCP rules.

dhcp server config

Print the DHCP server configuration settings.

SYNTAX:

```
dhcp server config  [state = <{disabled | enabled}>]
```

where:

dhcp server flush

Flush all DHCP server pool and lease entries.

The flush command does not impact previously saved configurations.

SYNTAX:

```
dhcp server flush
```

dhcp server policy

Print the DHCP server policy settings.

SYNTAX:

```
dhcp server policy   [verifyfirst = <disabled | enabled>]
                     [trustclient = <disabled | enabled>]
```

where:

dhcp server debug clear

Clear the DHCP server statistics.

SYNTAX:

```
dhcp server debug clear
```

EXAMPLE:

```
=>dhcp server debug stats
DHCP server state: Running
DHCP server statistics:
Corrupted packet recv           :         0
DISCOVER                        :         2451
REQUEST                         :         28
DECLINE                         :         0
RELEASE                         :         22
INFORM                          :         1
Pure BOOTP REQUESTS             :         2
Other message types             :         0
OFFERs sent                     :         2451
ACKs sent                       :         19
NAKs sent                       :         0
Relay agent options dropped     :         0
Lease table got full    : no
Ping table got full     : no
Second dhcp server seen : no
Total size of lease table: 32, in use: 0 free: 100 %
=>dhcp server debug clear
=>dhcp server debug stats
DHCP server state: Running
DHCP server statistics:
Corrupted packet recv           :         0
DISCOVER                        :         0
REQUEST                         :         0
DECLINE                         :         0
RELEASE                         :         0
INFORM                          :         0
Pure BOOTP REQUESTS             :         0
Other message types             :         0
OFFERs sent                     :         0
ACKs sent                       :         0
NAKs sent                       :         0
Relay agent options dropped     :         0
Lease table got full    : no
Ping table got full     : no
Second dhcp server seen : no
Total size of lease table: 32, in use: 0 free: 100 %
=>
```

RELATED COMMANDS:

dhcp server debug stats	Show the DHCP server statistics.

dhcp server debug stats

Show the DHCP server statistics.

SYNTAX:

```
dhcp server debug stats
```

EXAMPLE:

```
=>dhcp server stats
DHCP Server State:   Stopped
DHCP server statistics:
Corrupted packet recv           :         0
DISCOVER                        :         2451
REQUEST                         :         28
DECLINE                         :         0
RELEASE                         :         22
INFORM                          :         1
Pure BOOTP REQUESTS             :         2
Other message types             :         0
OFFERs sent                     :         2451
ACKs sent                       :         19
NAKs sent                       :         0
Relay agent options dropped     :         0
Lease table got full    : no
Ping table got full     : no
Second dhcp server seen : no
Total size of lease table: 32, in use: 16, free: 50 %
=>
```

DESCRIPTION:

- ***DHCP server state***: the state of the DHCP server.
- ***Corrupted packet recv***: the number of corrupted packets (not complaint to RFC2131) received from the LAN.
- ***DISCOVER***: the number of DHCP server discovery packets received from the LAN. These broadcasts are sent by potential DHCP clients to locate available DHCP servers.
- ***REQUEST***: the number of DHCP address lease requests received from the Local Area Network (LAN).
- ***DECLINE***: the number of DHCP address lease requests declined.
- ***RELEASE***: the number of DHCP address release requests received from DHCP clients.
- ***INFORM***: the number of information requests received from DHCP clients.
- ***Pure BOOTP requests***: the number of BOOTP requests received from the LAN.
- ***Other message types***: the number of other messages received from the LAN.
- ***OFFERs sent***: the number of IP address offers sent in reply to DHCP requests.
- ***ACKs sent***: the number of ACKnowledgement replies sent to successfully configured DHCP clients.
- ***NAKs sent***: the number of Not-AcKnowledgement replies sent to wrongly configured DHCP clients.
- ***Relay agent options dropped***
- ***Lease table got full***: whether the maximum number of DHCP leases is reached or not.
- ***Ping table got full***: whether the history list of IP address pings got full or not. These pings are sent by the DHCP server to verify whether the IP address is already in use disabled the LAN or not (:dhcp server policy verifyfirst=yes).
- ***Second DHCP server seen***: whether a concurrent DHCP server was found disabled the LAN or not.

RELATED COMMANDS:

dhcp server debug clear	Clear the DHCP server statistics.

dhcp server debug traceconfig

Modify the DHCP server trace configuration.

SYNTAX:

```
dhcp server debug traceconfig  [state = <{disabled | enabled}>]
```

where:

state	Enable or disable tracing. The default is ***disabled***.	OPTIONAL

EXAMPLE:

```
=>dhcp server debug traceconfig
Tracing: disabled
=>
```

dhcp server lease add

Add a DHCP server lease.

SYNTAX:

```
dhcp server lease add  clientid = <client-id>
                       pool = <string>
                       [addr = <ip-address>]
                       [offset = <number>]
                       [leasetime = <number>]
                       [expirytime = <number>]
                       [gateway = <ip-address>]
                       [macaddr = <hardware-address>]
```

where:

clientid	The DHCP client identification string of the booting host.	REQUIRED
pool	The name of the DHCP server pool from which the DHCP lease should be taken. **Tip** Use the command `:dhcp server pool list` to obtain a list of available DHCP server pools.	REQUIRED
addr	The favoured IP address for this DHCP host. This IP address, if specified, must be in the range of the specified DHCP server pool.	OPTIONAL
offset	A number between 0 and the integer number defined by the number of available IP addresses in the DHCP server pool. Represents the IP address offset in the DHCP server pool preserved for this host. **Note** Not specifying this parameter does not preserve an IP address for the host.	OPTIONAL
leasetime	A number (of seconds). Represents the time the host is allowed to use this address. **Note** 0 means infinite leasetime.	OPTIONAL
expiretime	The time in seconds the DHCP server keeps the lease reserved **Tip** 0 means infinite expirytime.	
gateway	The IP address of the default router for this client.	OPTIONAL
macaddr	The MAC address of the host.	OPTIONAL

EXAMPLE:

```
=>dhcp server lease list
Lease           Pool          TTL          State      Clientid
0  0.0.0.0      dhcp_pool_1   00:26:40     FREE       00:90:D0:12:34:56
=>dhcp server lease add clientid=01:23:55:67:89:ab pool=Local_pool leasetime=3600
=>dhcp server lease list
Lease           Pool          TTL          State      Clientid
0  0.0.0.0      dhcp_pool_1   00:26:40     FREE       00:90:D0:12:34:56
1  10.0.0.1     local_pool    00:59:22     USED       01:23:45:67:89:AB
=>
```

RELATED COMMANDS:

dhcp server lease delete	Delete a DHCP server lease.
dhcp server lease list	List all the DHCP server leases.

dhcp server lease delete

Delete a DHCP server lease.

SYNTAX:

```
dhcp server lease delete   [clientid = <clientid | none>]
                           [index = <number>]
```

where:

clientid	The DHCP client identification string of the DHCP lease. **Note** If not specified, all DHCP clients are deleted.	OPTIONAL
index	The DHCP server lease table index. **Tip** Use the command `:dhcp server lease list` to obtain a list of the index numbers of all current DHCP leases.	OPTIONAL

EXAMPLE:

```
=>dhcp server lease list
Lease           Pool          TTL          State      Clientid
0   0.0.0.0     dhcp_pool_1   00:26:40     FREE       00:90:D0:12:34:56
1   10.0.0.1    local_pool    00:59:22     USED       01:23:45:67:89:AB
=>dhcp server lease delete index=0
=>dhcp server lease list
Lease           Pool          TTL          State      Clientid
1   10.0.0.1    local_pool    00:59:22     USED       01:23:45:67:89:AB
=>
```

RELATED COMMANDS:

dhcp server lease add	Add a DHCP server lease.
dhcp server lease list	List all the DHCP server leases.

dhcp server lease flush

Flush all the DHCP server leases.

The flush command does not impact previously saved configurations.

SYNTAX:

```
dhcp server lease flush  [pool = <string>]
```

where:

pool	The name of the DHCP server pool to be flushed. Only the leases belonging to this pool will be deleted. **Note** If not specified, all the DHCP server leases will be flushed.	OPTIONAL

EXAMPLE:

```
=>dhcp server lease list
Lease          Pool         TTL          State      Clientid
0  0.0.0.0     dhcp_pool_1  00:26:40     FREE       00:90:D0:12:34:56
1  10.0.0.1    local_pool   00:59:22     USED       01:23:45:67:89:AB
2  10.0.0.101  local_pool   00:21:01     USED       01:23:89:AB:80:CD
3  10.0.0.132  local_pool   00:45:37     USED       09:D0:25:CE:F1:31
5  10.0.0.5    local_pool   00:21:11     USED       AB:33:A1:7C:89:DD
4  10.0.0.6    local_pool   00:59:01     USED       E3:81:9F:11:11:11
8  10.0.0.8    local_pool   00:01:00     USED       08:80:09:90:AB:DC
9  10.0.0.15   local_pool   00:00:23     USED       08:93:DA:AE:01:AF
=>dhcp server lease flush
=>dhcp server lease list
=>
```

dhcp server lease list

List all the DHCP server leases.

SYNTAX:

```
dhcp server lease list   [clientid = <clientid | none>]
                         [index = <number>]
```

where:

clientid	The DHCP client identification string of the DHCP lease. **Note** If not specified, the DSHCP server leases for all the DHCP clients are listed.	OPTIONAL
index	The DHCP server lease table index. **Note** If not specified, the complete DHCP server lease table will be shown.	OPTIONAL

EXAMPLE:

```
=>dhcp server lease list
Lease           Pool          TTL          State      Clientid
0   0.0.0.0    dhcp_pool_1   00:26:40     FREE       00:90:D0:12:34:56
1   10.0.0.1   local_pool    00:59:22     USED       01:23:45:67:89:AB
2   10.0.0.101 local_pool    00:21:01     USED       01:23:89:AB:80:CD
3   10.0.0.132 local_pool    00:45:37     USED       09:D0:25:CE:F1:31
5   10.0.0.5   local_pool    00:21:11     USED       AB:33:A1:7C:89:DD
4   10.0.0.6   local_pool    00:59:01     USED       E3:81:9F:11:11:11
8   10.0.0.8   local_pool    00:01:00     USED       08:80:09:90:AB:DC
9   10.0.0.15  local_pool    00:00:23     USED       08:93:DA:AE:01:AF
=>
```

RELATED COMMANDS:

dhcp server lease add	Add a DHCP server lease.
dhcp server lease delete	Delete a DHCP server lease.

dhcp server option flush

Flush all DHCP server option templates and instances.

The flush command does not impact previously saved configurations.

SYNTAX:

```
dhcp server option flush
```

dhcp server option instadd

Add a DHCP server option instance.

SYNTAX:

```
dhcp server option instadd  name = <string>
                            tmplname = <string>
                            value = <Value : (type)value; type being 8-bit,
                                     16-bit, 32-bit, addr, ascii, byte_array>
```

where:

name	The name of the DHCP server option instance.	REQUIRED
tmplname	The name of the DHCP server option template. **Tip** Use the command **:dhcp server option tmpllist** to obtain a list of DHCP server option templates.	REQUIRED
value	The value of the DHCP server option instance. Format is (type)value where type is 8-bit, 16-bit, 32-bit, addr, ascii or byte_array. **Note** The type must be identical to the type of the DHCP server option template. Use the command **:dhcp server option tmpllist** to obtain a list of DHCP server option templates.	REQUIRED

EXAMPLE:

```
=>dhcp server option instlist
myInstance
        Tmpl name : myTmpl               (1)
        Use       : 0
        Value     : (32-bit)64

=>dhcp server option instadd name=yourInstance tmplname=yourTmpl value=(ascii)&#33
{root}[dhcp server option]=>instlist
yourInstance
        Tmpl name : yourTmpl             (2)
        Use       : 0
        Value     : (ascii)&#33

myInstance
        Tmpl name : myTmpl               (1)
        Use       : 0
        Value     : (32-bit)64

=>
```

RELATED COMMANDS:

dhcp server option instdelete	Delete a DHCP server option instance.
dhcp server option instlist	List all the DHCP server option instances.

dhcp server option instdelete

Delete a DHCP server option instance.

SYNTAX:

```
dhcp server option instdelete  name = <string>
```

where:

name	The name of the DHCP server option instance to be deleted.	REQUIRED

EXAMPLE:

```
=>dhcp server option instlist
yourInstance
        Tmpl name : yourTmpl              (2)
        Use       : 0
        Value     : (ascii)&#33

myInstance
        Tmpl name : myTmpl                (1)
        Use       : 0
        Value     : (32-bit)64

=>dhcp server option instdelete name=yourInstance
=>dhcp server option instlist
myInstance
        Tmpl name : myTmpl                (1)
        Use       : 0
        Value     : (32-bit)64

=>
```

RELATED COMMANDS:

dhcp server option instadd	Add a DHCP server option instance.
dhcp server option instlist	List all the DHCP server option instances.

dhcp server option instlist

List all the DHCP server option instances.

SYNTAX:

```
dhcp server option instlist
```

EXAMPLE:

```
=>dhcp server option instlist
yourInstance
        Tmpl name : yourTmpl             (2)
        Use       : 0
        Value     : (ascii)&#33

myInstance
        Tmpl name : myTmpl               (1)
        Use       : 0
        Value     : (32-bit)64

=>
```

RELATED COMMANDS:

dhcp server option instadd	Add a DHCP server option instance.
dhcp server option instdelete	Delete a DHCP server option instance.

dhcp server option tmpladd

Add a DHCP server option template.

SYNTAX:

```
dhcp server option tmpladd  name = <string>
                            optionid = <number{1-254}>
                            type = <{8-bit | 16-bit | 32-bit | addr | ascii
                                     | byte_array}>
```

where:

name	The name of the DHCP server option template.	REQUIRED
optionid	A number between 1 and 254. Specifies the DHCP server option code.	REQUIRED
type	Specifies the DHCP server option type. Choose between: ▸ 8-bit ▸ 16-bit ▸ 32-bit ▸ addr ▸ ascii ▸ byte_array.	REQUIRED

EXAMPLE:

```
=>dhcp server option tmpllist
Name                 Option  Type         Use
myTmpl               1       32-bit       0
=>dhcp server option tmpladd name=yourTmpl optionid=2 type=ascii
=>dhcp server option tmpllist
Name                 Option  Type         Use
yourTmpl             2       ascii        0
myTmpl               1       32-bit       0
=>
```

RELATED COMMANDS:

dhcp server option tmpldelete	Delete a DHCP server option template.
dhcp server option tmpllist	List all the DHCP server option templates.

dhcp server option tmpldelete

Delete a DHCP server option template.

SYNTAX:

```
dhcp server option tmpldelete  name = <string>
```

where:

name	The name of the DHCP server option template to be deleted.	REQUIRED

EXAMPLE:

```
=>dhcp server option tmpllist
Name                 Option  Type         Use
yourTmpl             2       ascii        0
myTmpl               1       32-bit       0
=>dhcp server option tmpldelete name=yourTmpl
=>dhcp server option tmpllist
Name                 Option  Type         Use
myTmpl               1       32-bit       0
=>
```

RELATED COMMANDS:

dhcp server option tmpladd	Add a DHCP server option template.
dhcp server option tmpllist	List all the DHCP server option templates.

dhcp server option tmpllist

List all the DHCP server option templates.

SYNTAX:

```
dhcp server option tmpllist
```

EXAMPLE:

```
=>dhcp server option tmpllist
Name                 Option  Type         Use
yourTmpl             2       ascii        0
myTmpl               1       32-bit       0
=>
```

RELATED COMMANDS:

dhcp server option tmpladd	Add a DHCP server option template.
dhcp server option tmpldelete	Delete a DHCP server option template.

dhcp server pool add

Add a DHCP server pool.

SYNTAX:

```
dhcp server pool add  name = <string>
                      [index = <number>]
```

where:

name	The name of the DHCP server pool. **Note** If not specified, the name is "dhcp_pool_x", where x is a subsequent number.	REQUIRED
index	The number of the pool before which you want the new pool to be added. **Note** If not specified, the DHCP server pool will be added at the bottom of the DHCP server lease table.	OPTIONAL

EXAMPLE:

```
=>dhcp server pool list
Pool            Start            End            State            PPP
0 dhcp_pool_1   0.0.0.0          0.0.0.0        FREE
1 My_LAN_Pool   10.0.0.1         10.0.0.254     USED
2 dhcp_pool_2   0.0.0.0          0.0.0.0        FREE
=>dhcp server pool add
=>dhcp server pool list
Pool            Start            End            State            PPP
0 dhcp_pool_1   0.0.0.0          0.0.0.0        FREE
1 My_LAN_Pool   10.0.0.1         10.0.0.254     USED
2 dhcp_pool_2   0.0.0.0          0.0.0.0        FREE
3 dhcp_pool_3   0.0.0.0          0.0.0.0        FREE
=>dhcp server pool add name=POOL_EXTRA1
=>dhcp server pool list
Pool            Start            End            State            PPP
0 dhcp_pool_1   0.0.0.0          0.0.0.0        FREE
1 My_LAN_Pool   10.0.0.1         10.0.0.254     USED
2 dhcp_pool_2   0.0.0.0          0.0.0.0        FREE
3 dhcp_pool_3   0.0.0.0          0.0.0.0        FREE
4 POOL_EXTRA1   0.0.0.0          0.0.0.0        FREE
=>ppp ifconfig name=PPP_Test pool=POOL_EXTRA1
=>dhcp server pool list
Pool            Start            End            State            PPP
0 dhcp_pool_1   0.0.0.0          0.0.0.0        FREE
1 My_LAN_Pool   10.0.0.1         10.0.0.254     USED
2 dhcp_pool_2   0.0.0.0          0.0.0.0        FREE
3 dhcp_pool_3   0.0.0.0          0.0.0.0        FREE
4 POOL_EXTRA1   0.0.0.0          0.0.0.0        FREE             PPP_Test
=>
```

RELATED COMMANDS:

dhcp server pool delete	Delete a DHCP server pool.
dhcp server pool list	List all DHCP server pools.

dhcp server pool config

Configure a DHCP server pool.

SYNTAX:

```
dhcp server pool config  name = <string>
                         intf = <string>
                         [index = <number>]
                         [poolstart = <ip-address>]
                         [poolend = <ip-address>]
                         [netmask = <ip-mask(dotted or cidr)>]
                         [gateway = <ipaddress | 0>]
                         [server = <ipaddress | 0>]
                         [primdns = <ipaddress | 0>]
                         [secdns = <ipaddress | 0>]
                         [dnsmetric = <number{0-100}>]
                         [primwins = <ipaddress | 0>]
                         [secwins = <ipaddress | 0>]
                         [leasetime = <number>]
                         [unnumbered = <{disabled | enabled}>]
                         [localgw = <{disabled | enabled}>]
```

where:

name	The name of the DHCP server pool to configure.	REQUIRED
intf	The interface for which the pool is allowed to lease IP addresses.	REQUIRED
index	A number between 0 (highest priority) and the highest number (lowest priority) found in the list of existing DHCP server pools. Represents a (higher) priority for the DHCP server pool. **Tip** Use the command `:dhcp server pool list` to obtain a list of the index numbers of all current DHCP server pools.	OPTIONAL
poolstart	The lowest IP address in the DHCP address range to use for leasing. The default value of this parameter is 0.0.0.0 (not specified), which means that the lowest IP address of the pool will be defined by the remote server via Internet Protocol Control Protocol (IPCP) as soon as the Point-to-Point Protocol (PPP) IPCP subnetmasking connection is established.	OPTIONAL
poolend	The highest IP address in the DHCP address range to use for leasing. The default value of this parameter is 0.0.0.0 (not specified), which means that the highest IP address of the pool will be defined by the remote server via IPCP as soon as the PPP IPCP subnetmasking connection is established.	OPTIONAL
netmask	The applicable netmask for the DHCP leases.	OPTIONAL
gateway	The IP address of the default gateway for the DHCP clients. The default value of this parameter is 0 (not specified), which means that the gateway IP address will be communicated by the remote server as soon as the PPP IPCP subnetmasking connection is established or that the SpeedTouch™ acts as the LAN default gateway.	OPTIONAL
server	The IP address of the DHCP server for DHCP clients.	OPTIONAL

primdns	The IP address of the primary DNS server for the DHCP clients. The default value of this parameter is 0 (not specified), which means that the IP address of the DNS server will be communicated by the remote server as soon as the PPP IPCP subnetmasking connection is established or that the SpeedTouch™ acts as the LAN DNS server.	OPTIONAL
secdns	The IP address of the optional secondary DNS server for DHCP clients. The default value of this parameter is 0 (not specified), which means that the gateway IP address will be communicated by the remote server as soon as the PPP IPCP subnetmasking connection is established.	OPTIONAL
dnsmetric	The DHCP server pool DNS route metric.	OPTIONAL
primwins	The IP address of the primary Windows Internet Naming Service (WINS) server for DHCP clients.	OPTIONAL
secwins	The IP address of the secondary WINS server for DHCP clients.	OPTIONAL
leasetime	A number (of seconds). Represents the time in seconds a client is allowed to use an address. **Note** Specifying 0 makes the lease permanent.	OPTIONAL
unnumbered	Assign an IP address from this pool to the DHCP server (enabled) or not (disabled). **Note** For dynamic pools only.	OPTIONAL
localgw	Proxy for a virtual default gateway residing in same subnet of DHCP client instead of the remote peer address.	OPTIONAL

EXAMPLE:

```
=>dhcp server pool list
Pool             Start            End             Intf            State
0 LAN_Private    10.0.0.1         10.0.0.254      eth0            USED
=>dhcp server pool config name=My_Pool poolstart=192.6.11.101
  | poolend=192.6.11.254 netmask=255.255.255 gateway=192.6.11.100 leasetime=21600
=>dhcp server pool list
Pool             Start            End             Intf            State
0 LAN_Private    10.0.0.1         10.0.0.254      eth0            USED
1 My_Pool        192.6.11.101     192.6.11.254    eth0            USED
=>
```

dhcp server pool delete

Delete a DHCP server pool.

SYNTAX:

```
dhcp server pool delete  name = <string>
```

where:

name	The name of the DHCP server pool to be deleted. **Tip** Use the command `:dhcp server pool list` to obtain a list of all current DHCP leases.	REQUIRED

EXAMPLE:

```
=>dhcp server pool list
Pool             Start             End            Intf            State
0 LAN_Private    10.0.0.1          10.0.0.254     eth0            USED
1 My_Pool        192.6.11.101      192.6.11.254   eth0            USED
=>dhcp server pool delete name=My_Pool
=>dhcp server pool list
Pool             Start             End            Intf            State
0 LAN_Private    10.0.0.1          10.0.0.254     eth0            USED
=>
```

RELATED COMMANDS:

dhcp server pool add	Add a DHCP server pool.
dhcp server pool list	List all DHCP server pools.

dhcp server pool flush

Flush all DHCP server pools.

The flush command does not impact previously saved configurations.

SYNTAX:

```
dhcp server pool flush
```

EXAMPLE:

```
=>dhcp server pool list
Pool            Start            End           Intf            State
0 LAN_Private   10.0.0.1         10.0.0.254    eth0            USED
1 My_Pool       192.6.11.101     192.6.11.254  eth0            USED
=>dhcp server pool flush
=>dhcp server pool list
=>
```

dhcp server pool list

List all DHCP server pools.

SYNTAX:

```
dhcp server pool list   [name = <string>]
```

where:

name	The name of the DHCP server pool to be shown. **Note** If not specified, all the DHCP server pools are shown.	OPTIONAL

EXAMPLE:

```
=>dhcp server pool list
Pool              Start            End            Intf            State
0 LAN_Private     10.0.0.1         10.0.0.254     eth0            USED
1 My_Pool         192.6.11.101     192.6.11.254   eth0            USED
=>
```

RELATED COMMANDS:

dhcp server pool add	Add a DHCP server pool.
dhcp server pool delete	Delete a DHCP server pool.

dhcp server pool optadd

Add an option instance to the DHCP server pool.

SYNTAX:

```
dhcp server pool optadd  name = <string>
                         instname = <string>
```

where:

name	The name of the DHCP server pool to which an option instance must be added.	REQUIRED
instname	The name of the DHCP server option instance. **Tip** Use the command `:dhcp server option instlist` to obtain a list of DHCP server option instances.	REQUIRED

EXAMPLE:

```
=>dhcp server pool optadd name=dhcp_pool_1 instname=yourInstance
=>dhcp server pool list name=dhcp_pool_1
Pool                Start           End             Intf       State
1  dhcp_pool_1      0.0.0.0         0.0.0.0         lan1       FREE

DHCP server   = 0.0.0.0 [unnumbered]
Netmask       = 0.0.0.0
Leasetime     = infinite
Gateway       = 0.0.0.0
DNS domain    = lan
DNS metric    = 0

DNS address list:
0.0.0.0 (local DNS)

Option instance list:
Name                 Option
yourInstance         2    (yourTmpl)
=>
```

RELATED COMMANDS:

dhcp server pool optdelete	Delete an option instance from the DHCP server pool.

dhcp server pool optdelete

Delete an option instance from the DHCP server pool.

SYNTAX:

```
dhcp server pool optdelete  name = <string>
                            instname = <string>
```

where:

name	The name of the DHCP server pool from which an option instance must be deleted.	REQUIRED
instname	The name of the DHCP server option instance to be deleted. **Tip** Use the command **:dhcp server option list** to obtain a list of DHCP server option instances.	REQUIRED

EXAMPLE:

```
=>dhcp server pool list name=dhcp_pool_1
Pool                Start            End              Intf       State
1  dhcp_pool_1      0.0.0.0          0.0.0.0          lan1       FREE

DHCP server   = 0.0.0.0 [unnumbered]
Netmask       = 0.0.0.0
Leasetime     = infinite
Gateway       = 0.0.0.0
DNS domain    = lan
DNS metric    = 0

DNS address list:
0.0.0.0 (local DNS)

Option instance list:
Name                  Option
yourInstance          2    (yourTmpl)
=>dhcp server pool optdelete name=dhcp_pool_1 instname=yourInstance
=>dhcp server pool list name=dhcp_pool_1
Pool                Start            End              Intf       State
1  dhcp_pool_1      0.0.0.0          0.0.0.0          lan1       FREE

DHCP server   = 0.0.0.0 [unnumbered]
Netmask       = 0.0.0.0
Leasetime     = infinite
Gateway       = 0.0.0.0
DNS domain    = lan
DNS metric    = 0

DNS address list:
0.0.0.0 (local DNS)
=>
```

RELATED COMMANDS:

dhcp server pool optadd	Add an option instance to the DHCP server pool.

dhcp server pool rtadd

Add a route to the DHCP server pool.

SYNTAX:

```
dhcp server pool rtadd  name = <string>
                        dst = <ip-address>
                        [dstmsk = <ip-mask(dotted or cidr)>]
                        [gateway = <ipaddress | 0>]
```

where:

name	The name of the DHCP server pool to which a route must be added.	REQUIRED
dst	The IP destination address of the route for DHCP clients.	REQUIRED
dstmsk	The destination IP address mask.	OPTIONAL
gateway	The IP address of the next hop. Must be directly connected to the DHCP client	OPTIONAL

RELATED COMMANDS:

dhcp server pool rtdelete	Delete a route from the DHCP server pool.

dhcp server pool rtdelete

Delete a route from the DHCP server pool.

SYNTAX:

```
dhcp server pool rtdelete  name = <string>
                           dst = <ip-address>
                           [dstmsk = <ip-mask(dotted or cidr)>]
                           [gateway = <ipaddress | 0>]
```

where:

name	The name of the DHCP server pool from which a route must be deleted.	REQUIRED
dst	The IP destination address of the route for DHCP clients.	REQUIRED
dstmsk	The destination IP address mask.	OPTIONAL
gateway	The IP address of the next hop. Must be directly connected to the DHCP client	OPTIONAL

RELATED COMMANDS:

dhcp server pool rtadd	Add a route to the DHCP server pool.

dhcp server pool ruleadd

Add a selection rule to the DHCP server pool.

SYNTAX:

```
dhcp server pool ruleadd  name = <string>
                          [key = {or | and}]
                          rulename = <string>
```

where:

name	The name of the DHCP server pool to which a selection rule must be added.	REQUIRED
key	The logical key of the selection rule. The default is ***or***.	OPTIONAL
rulename	The name of the DHCP selection rule. **Tip** Use the command **`:dhcp server rule list`** to obtain a list of DHCP server rules.	REQUIRED

RELATED COMMANDS:

dhcp server pool ruledelete	Delete a selection rule from the DHCP server pool.

dhcp server pool ruledelete

Delete a selection rule from the DHCP server pool.

SYNTAX:

```
dhcp server pool ruleadd   name = <string>
                           rulename = <string>
```

where:

name	The name of the DHCP server pool from which a selection rule must be deleted.	REQUIRED
rulename	The name of the DHCP selection rule to be deleted. **Tip** Use the command `:dhcp server rule list` to obtain a list of DHCP server rules.	REQUIRED

RELATED COMMANDS:

dhcp server pool ruleadd	Add a selection rule to the DHCP server pool.

DNS Commands

Introduction

This chapter describes the commands of the **dns** command group.

Contents

This chapter covers the following commands:

dns client config

Modify the Domain Name System (DNS) resolver configuration.

SYNTAX:

```
dns client config   [timeout = <number{1-900}>]
                    [retry = <number{0-10}>]
                    [search = <{disabled | enabled}>]
                    [list = <string>]
                    [trace = <{disabled | enabled}>]
```

where:

timeout	A number between 1 and 900 (seconds). Represents the query timeout. The default is ***5***.	OPTIONAL
retry	A number between 0 and 10. Represents the number of query retries before giving up. The default is ***3***.	OPTIONAL
search	Use the search list to construct fully qualified domain names. The default is ***disabled***.	OPTIONAL
list	Specify a search list. This is a slash separated list of domain name suffixes.	OPTIONAL
trace	Enable or disable verbose logging. The default is ***disabled***.	OPTIONAL

EXAMPLE:

```
=>dns client config
timeout  : 5s
retry    : 3
search   : on
srchlist : <empty>
trace    : off
=>
```

dns client dnsadd

Add a DNS server.

SYNTAX:

```
dns client dnsadd   addr = <string>
                    [port = <number>]
```

where:

addr	The IP address of the DNS server to be added.	REQUIRED
port	The DNS server port number. The default is ***53***.	OPTIONAL

EXAMPLE:

```
=>dns client dnsadd addr=150.150.150.150
=>dns client dnslist

Entry    State      Family    Server
  1    CONNECTED      IP      [port] 53 - [addr] 127.0.0.1
  2    CONNECTED      IP      [port] 53 - [addr] 150.150.150.150

=>
```

RELATED COMMANDS:

dns client dnsdelete	Delete a DNS server.
dns client dnslist	List all DNS servers.

dns client dnsdelete

Delete a DNS server.

SYNTAX:

```
dns client dnsdelete  index = <number{1-99}>
```

where:

index	A number between 1 and 99. Represents the index number of the DNS server to be deleted. **Tip** Use the command `:dns client dnslist` to obtain a list of DNS servers.	REQUIRED

EXAMPLE:

```
=>dns client dnslist

Entry    State       Family    Server
  1    CONNECTED      IP      [port] 53 - [addr] 127.0.0.1
  2    CONNECTED      IP      [port] 53 - [addr] 150.150.150.150

=>dns client dnsdelete index=2
=>dns client dnslist

Entry    State       Family    Server
  1    CONNECTED      IP      [port] 53 - [addr] 127.0.0.1

=>
```

RELATED COMMANDS:

dns client dnsadd	Add a DNS server.
dns client dnslist	List all DNS servers.

dns client dnslist

List all DNS servers.

SYNTAX:

```
dns client dnslist
```

EXAMPLE:

```
=>dns client dnslist

Entry    State      Family    Server
  1    CONNECTED      IP      [port] 53 - [addr] 127.0.0.1
  2    CONNECTED      IP      [port] 53 - [addr] 150.150.150.150

=>
```

RELATED COMMANDS:

dns client dnsadd	Add a DNS server.
dns client dnsdelete	Delete a DNS server.

dns client flush

Remove all DNS servers.

SYNTAX:

```
dns client flush
```

dns client nslookup

DNS lookup for a domain name or an address.

SYNTAX:

```
dns client nslookup  host = <string>
```

where:

host	The DNS domain name string for which to query.	REQUIRED

dns server config

Modify the DNS resolver configuration.

SYNTAX:

```
dns server config  [domain = <string>]
                   [timeout = <number{0-2147483647}>]
                   [suppress = <number>]
                   [state = <{disabled | enabled}>]
                   [trace = <{disabled | enabled}>]
                   [WANDownSpoofing = <{disabled | enabled}>]
                   [WDSpoofedIP = <ip-address>]
```

where:

domain	The DNS server domain name.	OPTIONAL
timeout	A number between 0 and 2147483647 (seconds). Represents the forwarded DNS query timeout. The default is ***15***.	OPTIONAL
suppress	Suppress not more than the specified amount of remote DNS server errors. The default is ***0***.	OPTIONAL
state	Enable or disable the local DNS server/forwarder. The default is ***enabled***.	OPTIONAL
trace	Enable or disable verbose logging. The default is ***disabled***.	OPTIONAL
WANDownSpoofing	Enable or disable DNS spoofing when no applicable forwarding route present. The default is ***disabled***.	OPTIONAL
WDSpoofedIP	The IP address to be used for spoofing when ***WANDownSpoofing*** is enabled.	OPTIONAL

EXAMPLE:

```
=>dns server config
domain   : lan
timeout  : 15s
suppress : 0
state    : enabled
trace    : off
spoofing : off
spoof ip : 0.0.0.0
=>
```

dns server flush

Flush all local DNS hosts and routes.

SYNTAX:

```
dns server flush
```

dns server debug clear

Clear the DNS server/forwarder statistics.

SYNTAX:

```
dns server debug clear
```

EXAMPLE:

```
=>dns server debug stats
Corrupted packets received       :       100
Local questions resolved         :         3
Local negative answers sent      :         1
Total DNS packets forwarded      :         0
External answers received        :         0
Spoofed responses                :         0
Forward table full, discard      :         0
Spurious answers                 :         0
Unknown query types              :         0
=>dns server debug clear
=>dns server debug stats
Corrupted packets received       :         0
Local questions resolved         :         0
Local negative answers sent      :         0
Total DNS packets forwarded      :         0
External answers received        :         0
Spoofed responses                :         0
Forward table full, discard      :         0
Spurious answers                 :         0
Unknown query types              :         0
=>
```

RELATED COMMANDS:

dns server debug stats	Print the DNS server/forwarder statistics.

dns server debug stats

Print the DNS server/forwarder statistics.

SYNTAX:

```
dns server debug stats
```

EXAMPLE:

```
=>dns server debug stats
Corrupted packets received       :       100
Local questions resolved         :         3
Local negative answers sent      :         1
Total DNS packets forwarded      :         0
External answers received        :         0
Spoofed responses                :         0
Forward table full, discard      :         0
Spurious answers                 :         0
Unknown query types              :         0
=>
```

RELATED COMMANDS:

dns server debug clear	Clear the DNS server/forwarder statistics.

dns server debug spoof clear

Clear the intercept cache table

SYNTAX:

```
dns server debug spoof clear
```

RELATED COMMANDS:

dns server debug spoof getaddress	Get the real ip for the given spoofed ip
dns server debug spoof getflags	Get the error flags for the given spoofed ip
dns server debug spoof list	List the intercept cache table.
dns server debug spoof update	Update the intercept cache table.

dns server debug spoof getaddress

Get the real ip for the given spoofed ip

SYNTAX:

```
dns server debug      addr = <ip-address>
spoof getaddress
```

where:

addr	The IP address of the spoofed server.	REQUIRED

EXAMPLE:

```
{Administrator}=>dns server debug spoof getaddress addr=198.18.1.1
:dns server debug spoof getaddress addr=198.18.1.1
Resolved ip = 0.0.0.0.
{Administrator}=>
```

RELATED COMMANDS:

dns server debug spoof clear	Clear the intercept cache table
dns server debug spoof getflags	Get the error flags for the given spoofed ip
dns server debug spoof list	List the intercept cache table.
dns server debug spoof update	Update the intercept cache table.

dns server debug spoof getflags

Get the error flags for the given spoofed ip

SYNTAX:

```
dns server debug      addr = <ip-address>
spoof getflags
```

where:

addr	The IP address of the spoofed server.	REQUIRED

EXAMPLE:

```
{Administrator}[dns server debug spoof]=>:dns server debug spoof getflags
addr = 192.168.1.254
:dns server debug spoof getflags addr=192.168.1.254
Invalid spoofed ip.
{Administrator}[dns server debug spoof]=>
```

RELATED COMMANDS:

dns server debug spoof clear	Clear the intercept cache table
dns server debug spoof getaddress	Get the real ip for the given spoofed ip
dns server debug spoof list	List the intercept cache table.
dns server debug spoof update	Update the intercept cache table.

dns server debug spoof list

List the intercept cache table.

SYNTAX:

```
dsn server debug
spoof list
```

EXAMPLE:

```
{Administrator}[dns server debug spoof]=>list
Spoof IP          FQDN                          Real IP          Flags
198.18.1.1       eu.thmulti.com                0.0.0.0          Not resolved
198.18.1.2       thmulti.com                   0.0.0.0          Not resolved
198.18.1.3       com                           0.0.0.0          Not resolved
198.18.1.4       edgmd588.eu.thmulti.com       0.0.0.0          Not resolved
198.18.1.5       edgmssus01.eu.thmulti.com     0.0.0.0          Not resolved
198.18.1.6       BOULSDCEU02.eu.thmulti.com    0.0.0.0          Not resolved
198.18.1.7       juleke.nit                    0.0.0.0          Not resolved
```

RELATED COMMANDS:

dns server debug spoof clear	Clear the intercept cache table
dns server debug spoof getaddress	Get the real ip for the given spoofed ip
dns server debug spoof getflags	Get the error flags for the given spoofed ip
dns server debug spoof update	Update the intercept cache table.

dns server debug spoof update

Update the intercept cache table.

SYNTAX:

```
dns server debug
spoof update
```

EXAMPLE:

```
{Administrator}=>dns server debug spoof update
{Administrator}=>
```

RELATED COMMANDS:

dns server debug spoof clear	Clear the intercept cache table
dns server debug spoof getaddress	Get the real ip for the given spoofed ip
dns server debug spoof getflags	Get the error flags for the given spoofed ip
dns server debug spoof list	List the intercept cache table.

dns server host add

Add a local DNS host.

SYNTAX:

```
dns server host add  name = <string>
                     [addr = <ip-address>]
                     [ttl = <number{0-2147483647}>]
```

where:

name	The name of the IP host to be added.	REQUIRED
addr	The IP address of the host.	OPTIONAL
ttl	A number between 0 and 2147483647 (seconds). Represents the lifetime of the host. The default is ***0*** (in other words, no limit on the lifetime).	OPTIONAL

EXAMPLE:

```
=>dns server host add name=myDNS addr=150.150.150.150 ttl=3600
=>dns server host list
Address          Hostname                         TTL (s)
150.150.150.150  myDNS                           3600
<local>          speedtouch                         0
<local>          dsldevice                          0
=>
```

RELATED COMMANDS:

dns server host delete	Delete a local DNS host.
dns server host list	List all the local DNS hosts.

dns server host delete

Delete a local DNS host.

SYNTAX:

```
dns server host delete   name = <string>
```

where:

name	The name of the DNS host to be deleted.	REQUIRED

EXAMPLE:

```
=>dns server host list
Address           Hostname                         TTL (s)
150.150.150.150   myDNS                           3600
<local>           speedtouch                         0
<local>           dsldevice                          0
=>dns server host delete name=myDNS
=>dns server host list
Address           Hostname                         TTL (s)
<local>           speedtouch                         0
<local>           dsldevice                          0
=>
```

RELATED COMMANDS:

dns server host add	Add a local DNS host.
dns server host list	List all the local DNS hosts.

dns server host flush

Flush all the local DNS hosts.

SYNTAX:

```
dns server host flush
```

EXAMPLE:

```
=>dns server host list
Address          Hostname                         TTL (s)
192.168.1.64   * Unknown-00-10-a4-ad-32-cf          60
<local>          dsldevice                       1200
<local>          speedtouch                      1200
=>dns server host flush
=>dns server host list
=>
```

dns server host list

List all the local DNS hosts.

SYNTAX:

```
dns server host list
```

EXAMPLE:

```
=>dns server host list
Address          Hostname                         TTL (s)
192.168.1.64   * Unknown-00-10-a4-ad-32-cf           60
<local>          dsldevice                       1200
<local>          speedtouch                      1200
=>
```

RELATED COMMANDS:

dns server host add	Add a local DNS host.
dns server host delete	Delete a local DNS host.

dns server route add

Adds a DNS forwarding route.

SYNTAX:

```
dns server route add  dns = <ip-address>
                      [src = <ip-address>]
                      [srcmask = <ip-mask(dotted or cidr)>]
                      [domain = <string>]
                      [metric = <number{0-100}>]
                      [intf = <string>]
```

where:

dns	The IP address of a DNS server.	REQUIRED
src	The source IP address(es) using this remote DNS server. **Note** Supports IP/mask notation.	OPTIONAL
srcmask	The source IP address mask.	OPTIONAL
domain	The DNS domain label.	OPTIONAL
metric	A number between 0 and 100. Represents the metric (weight factor) for this DNS route. The lower the metric, the higher the weight.	OPTIONAL
intf	An interface name. DNS queries will only be forwarded on the specified interface. **Note** In no interface is specified, DNS queries will be forwarded on all interfaces.	OPTIONAL

EXAMPLE:

```
=>dns server route add dns=150.150.150.150 src=10.0.0.0/8 domain=myDNS intf=eth0
=>dns server route list
DNS Server       Source              Domain            Metric  Intf     State
150.150.150.150  10.0.0.0/8          myDNS               0     eth0      UP
=>
```

RELATED COMMANDS:

dns server route delete	Delete a DNS forwarding route.
dns server route list	List all the DNS forwarding routes.

dns server route delete

Delete a DNS forwarding route.

SYNTAX:

```
dns server route delete  dns = <ip-address>
```

where:

dns	The IP address of the DNS server for which the forwarding route must be deleted.	REQUIRED

EXAMPLE:

```
=>dns server route list
DNS Server       Source              Domain             Metric  Intf      State
150.150.150.150  10.0.0.0/8          myDNS                0     eth0       UP
=>dns server route delete dns=150.150.150.150
=>dns server route list
=>
```

RELATED COMMANDS:

dns server route add	Adds a DNS forwarding route.
dns server route list	List all the DNS forwarding routes.

dns server route flush

Flush all DNS forwarding routes.

SYNTAX:

```
dns server route flush
```

EXAMPLE:

```
=>dns server route list
DNS Server       Source              Domain            Metric  Intf      State
150.150.150.150  10.0.0.0/8          myDNS               0     eth0       UP
=>dns server route flush
=>dns server route list
=>
```

dns server route list

List all the DNS forwarding routes.

SYNTAX:

```
dns server route list
```

EXAMPLE:

```
=>dns server route list
DNS Server        Source              Domain            Metric  Intf      State
150.150.150.150   10.0.0.0/8          myDNS               0     eth0       UP
=>
```

RELATED COMMANDS:

dns server route add	Adds a DNS forwarding route.
dns server route delete	Delete a DNS forwarding route.

DSD Commands

Introduction

This chapter describes the commands of the **dsd** command group.

Contents

This chapter covers the following commands:

dsd config

Display/modify the Differentiated Service Delivery (DSD) framework configuration.

SYNTAX:

```
dsd config  [state = <{disabled | enabled}>]
```

where:

state	Enable or disable the DSD framework. The default is ***enabled***.	REQUIRED

EXAMPLE:

```
=>dsd config
State    : enabled
=>
```

dsd debug connection list

Display the internal connection pool usage.

SYNTAX:

```
dsd debug connection list    [expand = <{disabled|enabled}>]
```

where:

expand	Enable or disable the expanded listing. The default is ***disabled***.	optional

dsd debug proxy

Display/modify the HyperText Transfer Protocol (HTTP) Intercept fixed proxy configuration.

SYNTAX:

```
dsd debug proxy          [state = <{disabled | enabled}>]
                         [dest = <ip-address>]
                         [port = <{supported TCP/UDP port} or number>]
```

where:

state	Enable or disable fixed proxy redirecting. The default is ***disabled***.	OPTIONAL
dest	The destination IP address to which requests will be forwarded.	OPTIONAL
port	The port to be used for connecting to proxy. Select one of the supported Transmission Control Protocol (TCP)/UDP port names (see " Supported TCP/UDP Port Names" on page 613) or, alternatively, specify the port number.	OPTIONAL

EXAMPLE:

```
=>dsd debug proxy
State   : off
Dest.IP : 0.0.0.0
Port    : 0
=>
```

dsd debug recycling

Display/modify HTTPI recycling settings

SYNTAX:

```
dsd debug recycling  state = <disabled>|<enabled>
                     interval = <number>
                     httpidle = <number>
                     otheridle = <number>
```

where:

state	Enable/disable stream recycling	OPTIONAL
interval	Time between successive activity checks	OPTIONAL
httpidle	Minimal idle count for recycling (filtered) http streams	OPTIONAL
otheridle	Minimal idle count for recycling other streams	OPTIONAL

dsd debug stats

Display/clear DSD framework and module statistics

SYNTAX:

```
dsd debug stats        name = <{intercept|urlfilter|recycling|syslog|all}
                       clear = <{no|yes}>
```

where:

name	Specify the name of a module	REQUIRED
clear	Clear the specified statistics	REQUIRED

dsd intercept config

Display/modify the HTTP Intercept configuration.

SYNTAX:

```
dsd intercept config  [WDSpoofedIP = <ip-address>]
                      [servertimeout = <number>]
                      [servererrorurl = <string>]
                      [categoryerrorurl = <string>]
                      [monitorintercepturl = <string>]
                      [urlblockedurl = <string>]
                      [imageredirect = <{disabled | enabled}>]
                      [imageredirecturl = <string>]
                      [alwaysuseip = <{disabled | enabled}>]
```

where:

WDSpoofedIP	The IP address indicating unavailable WAN connection. The default is ***198.18.1.1***.	OPTIONAL
servertimeout	A number of seconds. Represents the server timeout for redirect action. The default is ***10***.	OPTIONAL
servererrorurl	The destination URL when the connection to the server failed.	OPTIONAL
categoryerrorurl	The destination URL when the connection to the category server failed.	OPTIONAL
monitorintercepturl	The destination URL when the request is intercepted by the monitor thread.	OPTIONAL
urlblockedurl	The destination URL when the requested URL is blocked.	OPTIONAL
imageredirect	Enable or disable substitution of blocked images. The default is ***enabled***.	OPTIONAL
imageredirecturl	The URL of the image used when substituting blocked images.	OPTIONAL
alwaysuseip	Always use IP address when redirecting to a local page (enabled) or not (disabled). The default is ***enabled***.	OPTIONAL

EXAMPLE:

```
=>dsd intercept config
WAN down spoofed IP    : 198.18.1.1
Servertimeout          : 10 sec
Connection failure     : /cgi/b/ic/connect/
Category server error  : /cgi/b/ic/connect/
Monitor intercept      : /cgi/b/ic/connect/
Unauthorized request   : /cgi/b/sfltr/blocked/
Image redirecting      : enabled
Image redirect url     : /images/spacer.gif
Always use IP          : enabled
=>
```

RELATED COMMANDS:

dsd intercept stats	Display the HTTP Intercept statistics.

dsd intercept stats

Display the HTTP Intercept statistics.

SYNTAX:

```
dsd intercept stats
```

EXAMPLE:

```
=>dsd intercept stats
Total requests          : 2
Unauthorized requests   : 0
Request errors          : 2
=>
```

RELATED COMMANDS:

dsd intercept config	Display/modify the HTTP Intercept configuration.

dsd syslog config

Display/modify the HTTP Intercept logging configuration.

SYNTAX:

```
dsd syslog config  [syslog = <{none | unauthorized | errors | intercepted
                              | all}>]
```

where:

syslog — Define the type of events to log. — OPTIONAL

Choose between:

- ***none***: nothing is logged to syslog.
- ***unauthorized***: only the HTTP requests that are blocked because of a LocalRule, BlockCategory, BlockIPAddress or BlockObscure event, are logged.
- ***errors***: only the HTTP requests that are blocked because of Server errors, Category errors, Monitor intercept, loop detection, bad requests or redirects by local policy rules.
- ***intercepted***: only the HTTP requests that are blocked because of URLBlocked, Server errors, Category errors, Monitor intercept, loop detection, bad requests or redirects by local policy rules.
- ***all***: every received request is logged to syslog.

The default is ***intercepted***.

EXAMPLE:

```
=>dsd syslog config
syslog    : errors
=>
```

RELATED COMMANDS:

dsd syslog list	Display the HTTP Intercept log file.

dsd syslog list

Display the HTTP Intercept log file.

SYNTAX:

```
dsd syslog list
```

EXAMPLE:

```
=>dsd syslog list
<86> SysUpTime: 00:22:37 [HTTPI] src=10.0.0.1 src_port=1965 dst=141.11.196.35 dst_port=80 event=Se
rverConnect dst_name=aWebsite.com/icons/Button_Document.gif
<86> SysUpTime: 00:22:59 [HTTPI] src=10.0.0.1 src_port=1968 dst=141.11.234.60 dst_port=80 event=Se
rverConnect dst_name=anotherWebsite.com/rawgen.asp
=>
```

RELATED COMMANDS:

dsd syslog config	Display/modify the HTTP Intercept logging configuration.

DynDNS Commands

Introduction

Dynamic DNS is a service that allows to bind a host name to an IP address. In contrast to classical DNS, this service allows regular updates of the IP address related to a host name. In this way, hosts of which the IP address regularly changes (for example due to a limited DHCP lease time) can be identified by a static host name that is unique throughout the Internet.

This chapter describes the commands of the **dyndns** commnd group.

Contents

This chapter covers the following commands:

dyndns add

Add a dynamic DNS client.

SYNTAX:

```
dyndns add  name = <string>
```

where:

name	The name of the new dynamic DNS client. **Note** A maximum of 5 clients can be configured.	REQUIRED

EXAMPLE:

```
=>dyndns add name=WAN
=>dyndns list
WAN        :   [INIT]

    user =   password =
    addr = 0.0.0.0

=>
```

RELATED COMMANDS:

dyndns delete	Delete a dynamic DNS client.
dyndns list	List all dynamic DNS clients.

dyndns delete

Delete a dynamic DNS client.

SYNTAX:

```
dyndns delete  name = <string>
```

where:

name	The name of the dynamic DNS client to be deleted.	REQUIRED

EXAMPLE:

```
=>dyndns list
WAN        :  [INIT]

    user =   password =
    addr = 0.0.0.0

=>dyndns delete name=WAN
=>dyndns list
=>
```

RELATED COMMANDS:

dyndns add	Add a dynamic DNS client.
dyndns list	List all dynamic DNS clients.

dyndns flush

Delete all the dynamic DNS clients.

SYNTAX:

```
dyndns flush
```

dyndns list

List all the dynamic DNS clients.

SYNTAX:

```
dyndns list
```

EXAMPLE:

```
=>dyndns list
WAN        :   [INIT]

    user =   password =
    addr = 0.0.0.0

=>
```

RELATED COMMANDS:

dyndns add	Add a dynamic DNS client.
dyndns delete	Delete a dynamic DNS client.

dyndns modify

Modify a dynamic DNS client.

SYNTAX:

```
dyndns modify  name = <string>
               [intf = <string>]
               [user = <string>]
               [password = <password>]
               [group = <string>]
               [mx = <string>]
               [backmx = <{disabled | enabled}>]
               [wildcard = <{disabled | enabled}>]
               [offline = <{disabled | enabled}>]
               [service = <{dyndns | statdns | custom | No-IP | DtDNS
                            | gnudip}>]
               [status = <{disabled | enabled}>]
               [trace = <{disabled | enabled}>]
```

where:

name	The name of the dynamic DNS client to be modified.	REQUIRED
intf	The dynamic DNS client interface. **Note** This parameter must be defined to enable the dynamic DNS client.	OPTIONAL
user	The username for dynamic DNS authentication.	OPTIONAL
password	The password for dynamic DNS authentication.	OPTIONAL
group	The dynamic DNS host group.	OPTIONAL
mx	The mail exchanger.	OPTIONAL
backmx	Set up the mail exchanger as a backup mail exchanger (enabled) or not (disabled). The default is ***disabled***.	OPTIONAL
wildcard	Allow the use of hostname wildcards (enabled) or not (disabled). The default is ***disabled***.	OPTIONAL
offline	Set the host to offline mode (enabled) or not (disabled). The default is ***disabled***.	OPTIONAL
service	The dynamic DNS service. Choose between: ‣ dyndns ‣ statdns ‣ custom ‣ No-IP ‣ DtDNS ‣ gnudip.	OPTIONAL
status	Enable or disable the dynamic DNS client. The default is ***disabled***.	OPTIONAL
trace	Enable or disable the verbose console logging for the dynamic DNS client. The default is ***disabled***.	OPTIONAL

EXAMPLE:

```
=>dyndns list
WAN       :  [INIT]

    user =   password =
    addr = 0.0.0.0

=>dyndns modify name=WAN intf=RtPPPoE user=DNSuser password=_DEV_BA8C0C963BD84130 service=gnudip
=>dyndns list
WAN       : RtPPPoE_ppp [INIT]
    options = gnudip
    user = my_DNS_user  password = ********
    addr = 0.0.0.0

=>
```

dyndns host add

Add a fully qualified host name.

SYNTAX:

```
dyndns host add   group = <string>
                  name = <string>
```

where:

group	The dynamic DNS host group. **Note** A maximum of 4 different groups can be created.	REQUIRED
name	The name of an IP host to add. **Note** A maximum of 20 hosts can be configured.	REQUIRED

EXAMPLE:

```
=>dyndns host add group=local name=localhost.com
=>dyndns host list
local :
  [ ] localhost.com

legend :
  [ ]  not initialised            [o]  update in progress
  [v]  update successful          [x]  error
=>
```

RELATED COMMANDS:

dyndns host delete	Delete a host name.
dyndns host list	List all host names.

dyndns host delete

Delete a host name.

SYNTAX:

```
dyndns host delete  name = <string>
```

where:

name	The name of the IP host to be deleted.	REQUIRED

EXAMPLE:

```
=>dyndns host list
local :
  [ ] localhost.com

public :
  [ ] publichost.com

legend :
  [ ]  not initialised            [o]  update in progress
  [v]  update successful          [x]  error
=>dyndns host delete name=publichost.com
=>dyndns host list
local :
  [ ] localhost.com

legend :
  [ ]  not initialised            [o]  update in progress
  [v]  update successful          [x]  error
=>
```

RELATED COMMANDS:

dyndns host add	Add a fully qualified host name.
dyndns host list	List all host names.

dyndns host flush

Delete all hosts.

The hosts cannot be flushed, if there is still a group referenced to the hosts.

SYNTAX:

```
dyndns host flush
```

dyndns host list

List all host names.

SYNTAX:

```
dyndns host list
```

EXAMPLE:

```
=>dyndns host list
local :
  [ ] localhost.com

public :
  [ ] publichost.com

legend :
  [ ]  not initialised              [o]  update in progress
  [v]  update successful            [x]  error
=>
```

RELATED COMMANDS:

dyndns host add	Add a fully qualified host name.
dyndns host delete	Delete a host name.

dyndns service list

List all dynamic DNS services.

SYNTAX:

```
dyndns service list
```

EXAMPLE:

```
=>dyndns service list
dyndns     :
    server          = members.dyndns.org
    port            = 80
    request         = /nic/update
    update interval = 2097120
    retry interval  = 30
    max retry       = 3


statdns    :
    server          = members.dyndns.org
    port            = 80
    request         = /nic/update
    update interval = 0
    retry interval  = 30
    max retry       = 3


custom     :
    server          = members.dyndns.org
    port            = 80
    request         = /nic/update
    update interval = 0
    retry interval  = 30
    max retry       = 3


No-IP      :
    server          = dynupdate.no-ip.com
    port            = 80
    request         = /ducupdate.php
    update interval = 86400
    retry interval  = 30
    max retry       = 3


DtDNS      :
    server          = dtdns.com
    port            = 80
    request         = /api/autodns.cfm
    update interval = 86400
    retry interval  = 30
    max retry       = 3
=>
```

RELATED COMMANDS:

dyndns service modify	Modify specific dynamic DNS service settings.

dyndns service modify

Modify specific dynamic DNS service settings.

SYNTAX:

```
dyndns service modify  name = <string>
                       [server = <string>]
                       [port = <{supported TCP/UDP port name} or number>]
                       [request = <string>]
                       [updateinterval = <number{0-2097120}>]
                       [retryinterval = <number{0-600}]
                       [max_retry = <number{1-5}>]
```

where:

name	The name of the dynamic DNS service. Choose between: - dyndns - statdns - custom - No-IP - DtDNS - gnudip.	REQUIRED
server	The hostname of the dynamic DNS server.	OPTIONAL
port	The port of the dynamic DNS server. Select one of the supported TCP/UDP port names (see “ Supported TCP/UDP Port Names” on page 613) or, alternatively, specify the port number.	OPTIONAL
request	The dynamic DNS request string.	OPTIONAL
updateinterval	A number between 0 and 2097120 (seconds). Represents the time interval before a dynamic update is sent to the dynamic DNS server. **Note** The value 0 means disabled.	OPTIONAL
retryinterval	A number between 0 and 600 (seconds). Represents the interval between retries if communication with the dynamic DNS server fails. The default is ***30***. **Note** The value 0 means disabled.	OPTIONAL
max_retry	A number between 1 and 5. Represents the maximum number of retries if communication with the dynamic DNS server fails. The default is ***3***.	OPTIONAL

EXAMPLE:

```
=>dyndns service modify name=custom server=mydyndns.org port=www-http request=hereiam
 |  updateinterval=2000000 retryinterval=15 max_retry=5
=>dyndns service list
dyndns    :
    server          = members.dyndns.org
    port            = 80
    request         = /nic/update
    update interval = 2097120
    retry interval  = 30
    max retry       = 3


statdns   :
    server          = members.dyndns.org
    port            = 80
    request         = /nic/update
    update interval = 0
    retry interval  = 30
    max retry       = 3


custom    :
    server          = mydyndns.org
    port            = 80
    request         = hereiam
    update interval = 2000000
    retry interval  = 15
    max retry       = 5


No-IP     :
    server          = dynupdate.no-ip.com
    port            = 80
    request         = /ducupdate.php
    update interval = 86400
    retry interval  = 30
    max retry       = 3


DtDNS     :
    server          = dtdns.com
    port            = 80
    request         = /api/autodns.cfm
    update interval = 86400
    retry interval  = 30
    max retry       = 3


=>
```

RELATED COMMANDS:

dyndns service list	List all dynamic DNS services.

Env Commands

Introduction

This chapter describes the commands of the **env** command group.

Contents

This chapter covers the following commands:

env flush

Flush all the non-system environment variables.

SYNTAX:

```
env flush
```

env get

Get the current value of an environment variable.

SYNTAX:

```
env get   var = <string>
```

where:

var	The name of the environment variable.	REQUIRED
	Tip Use the command **`:env list`** to obtain a list of all environment variables.	

RELATED COMMANDS:

env list	List all current environment variables.

env list

Show all the currently available environment variables.

SYNTAX:

```
env list
```

RELATED COMMANDS:

env get	Get the current value of an environment variable.

env set

Set an environment variable.

SYNTAX:

```
env set   var = <string>
          value = <translated string>
```

where:

var	The name of the environment variable. **Tip** When creating an environment variable, any name is allowed. However spaces are NOT allowed and the name may NOT start with: ▸ “CONF” ▸ “HOST” ▸ an underscore “_” ▸ the dollar sign “$”.	REQUIRED
value	A quoted translated string which defines the value of the environment variable. **Note** The value of system variables (built-in variables with names starting with an underscore “_”, “CONF” or “HOST”) cannot be changed.	REQUIRED

EXAMPLE:

For infinite TELNET time out, set the value of the variable ***SESSIONTIMEOUT*** to “0”:

```
=>env set var=SESSIONTIMEOUT value=0
=>
```

RELATED COMMANDS:

env unset	Delete a non-system environment variable.

env unset

Delete a environment variable.

SYNTAX:

```
env unset  var = <string>
```

where:

var	The name of the environment variable to be deleted. **Note** System variables (built-in variables with names starting with an underscore “_”, “CONF” or “HOST”) cannot be unset, changed or deleted.	REQUIRED

EXAMPLE:

```
=>env list
_COMPANY_NAME=THOMSON multimedia
_COMPANY_URL=http://www.speedtouch.com
_PROD_NAME=SpeedTouch
.....
CONF_DATE=March 2004
CONF_REGION=World
HOST_SETUP=user
=>env unset var=CONF_REGION
=>env list
_COMPANY_NAME=THOMSON multimedia
_COMPANY_URL=http://www.speedtouch.com
_PROD_NAME=SpeedTouch
.....
CONF_DATE=March 2004
HOST_SETUP=user
=>
```

RELATED COMMANDS:

env set	Create and set a non-system environment variable.

Eth Commands

Introduction

This chapter describes the commands of the `eth` command group.

Contents

This chapter covers the following commands:

eth ifadd

Create a new ETH interface.

SYNTAX:

```
eth ifadd  intf = <string>
```

where:

intf	The name of the new ETH interface.	REQUIRED

RELATED COMMANDS:

eth ifdelete	Delete an ETH interface.
eth iflist	Display the ETH interfaces.

eth ifattach

Attach an ETH interface.

SYNTAX:

```
eth ifattach  intf = <string>
```

where:

intf	The name of the ETH interface to be attached.	REQUIRED

RELATED COMMANDS:

eth ifdetach	Detach an ETH interface.

eth ifconfig

Modify an ETH interface.

SYNTAX:

```
eth ifconfig   intf = <string>
               [dest = <string>]
               [retry = <number{0-65535}>][group = <{default}>]
```

where:

intf	The name of the ETH interface to be configured.	REQUIRED
dest	The destination interface for this ETH interface.	OPTIONAL
retry	A number between 0 and 65535. Represents the number of times the ETH connection setup should retry before giving up. The default is ***10***.	OPTIONAL
group	The group for this ETH interface.	

eth ifdelete

Delete an ETH interface.

SYNTAX:

```
eth ifdelete  intf = <string>
```

where:

intf	The name of the ETH interface name to be deleted.	REQUIRED

RELATED COMMANDS:

eth ifadd	Create a new ETH interface.
eth iflist	Display the ETH interfaces.

eth ifdetach

Detach an ETH interface.

SYNTAX:

```
eth ifdetach  intf = <string>
```

where:

intf	The name of the ETH interface to be detached.	REQUIRED

RELATED COMMANDS:

eth ifattach	Attach an ETH interface.

eth iflist

Display the ETH interfaces.

SYNTAX:

```
eth iflist  [intf = <string>]
```

where:

intf	The name of the ETH interface to be displayed. **Note** If not specified, all the ETH interfaces will be displayed.	OPTIONAL

RELATED COMMANDS:

eth ifadd	Create a new ETH interface.
eth ifdelete	Delete an ETH interface.

eth flush

Flush all the ETH interfaces.

The flush command does not impact previously saved configurations.

SYNTAX:

```
eth flush
```

eth bridge clear

Clear the bridge statistics.

SYNTAX:

```
eth bridge clear
```

eth bridge dyngroup actlist

Display the active MAC entries for the dynamic group membership.

SYNTAX:

`eth bridge dyngroup actlist`	

eth bridge dyngroup add

Add a dynamic group membership entry.

SYNTAX:

`eth bridge dyngroup add`	`[id = <number{0-100000}>]`
	`hwaddr = <masked-hardware-address>`
	`group = <{default}>`

where:

id	A number between 0 and 100000. Represents the id of the dynamic group membership entry.	OPTIONAL
hwaddr	The (masked) ethernet MAC address of the dynamic group membership entry.	REQUIRED
group	The group for the dynamic group membership entry.	

eth bridge dyngroup config

Modify the dynamic group membership configuration.

SYNTAX:

`eth bridge dyngroup config`	`[timeout = <number{0-100000}>]`

where:

timeout	A number between 0 and 100000. Represents the timeout in seconds for the dynamic entries.	OPTIONAL

eth bridge dyngroup delete

Delete a dynamic group membership entry.

SYNTAX:

`eth bridge dyngroup delete`	`[id = <number{0-100000}>]`

where:

id	A number between 0 and 100000. Represents the id of the dynamic group membership entry.	OPTIONAL

eth bridge dyngroup list

Display a dynamic group membership entry.

SYNTAX:

eth bridge dyngroup list	

eth bridge dyngroup flush

Flush all dynamic group membership entries.

SYNTAX:

`eth bridge dyngroup flush`	

eth bridge config

Modify/display the bridge configuration settings.

SYNTAX:

```
eth bridge config  [age = <number{10-100000}>]
                   [filter = <{no_WAN_broadcast | none}>]
                   [vlan = <{disabled | enabled}>]
```

where:

age	A number between 10 and 100000 (seconds). Represents the lifetime of a dynamically learned Medium Access Control (MAC) address. The default is ***300***.	OPTIONAL
filter	The bridge filter to be applied for all Wide Area Network (WAN) bridge ports. Choose between: - ***no_WAN_broadcast***: broadcasts from the SpeedTouch™ itself to the WAN are filtered out, broadcasts from the LAN to the WAN are still passed through - ***none***: no broadcasts are filtered out. The default is ***no_WAN_broadcast***.	OPTIONAL
vlan	Enable or disable the use of the VLAN ID of the received VLAN packets. The default is ***enabled***.	OPTIONAL

eth bridge dynvlan actlist

Display the active MAC entries for the dynamic VLAN membership.

SYNTAX:

`eth bridge dynvlan actlist`	

RELATED COMMANDS:

eth bridge dynvlan add	Add a dynamic VLAN membership entry.
eth bridge dynvlan config	Modify the dynamic VLAN membership configuration.
eth bridge dynvlan delete	Delete a dynamic VLAN membership entry.
eth bridge dynvlan list	Display a dynamic VLAN membership entry.

eth bridge dynvlan add

Add a dynamic VLAN membership entry.

SYNTAX:

```
eth bridge dynvlan add    [id = <number{0-100000}>]
                          hwaddr = <masked-hardware-address>
                          vlan = <string>
```

where:

id	A number between 0 and 100000. Represents the id of the dynamic VLAN membership entry.	OPTIONAL
hwaddr	The (masked) ethernet MAC address of the dynamic VLAN membership entry.	REQUIRED
vlan	The VLAN for the dynamic VLAN membership entry.	REQUIRED

RELATED COMMANDS:

eth bridge dynvlan actlist	Display the active MAC entries for the dynamic VLAN membership.
eth bridge dynvlan config	Modify the dynamic VLAN membership configuration.
eth bridge dynvlan delete	Delete a dynamic VLAN membership entry.
eth bridge dynvlan list	Display a dynamic VLAN membership entry.

eth bridge dynvlan config

Modify the dynamic VLAN membership configuration.

SYNTAX:

`eth bridge dynvlan config`	`[timeout = <number{0-100000}>]`

where:

timeout	A number between 0 and 100000 (seconds). Represents timeout for the dynamic entries.	OPTIONAL

RELATED COMMANDS:

eth bridge dynvlan actlist	Display the active MAC entries for the dynamic VLAN membership.
eth bridge dynvlan add	Add a dynamic VLAN membership entry.
eth bridge dynvlan delete	Delete a dynamic VLAN membership entry.
eth bridge dynvlan list	Display a dynamic VLAN membership entry.

eth bridge dynvlan delete

Delete a dynamic VLAN membership entry.

SYNTAX:

```
eth bridge dynvlan delete     id = <number{0-100000}>
```

where:

id	A number between 0 and 100000. Represents the id of a dynamic VLAN membership.	REQUIRED

RELATED COMMANDS:

eth bridge dynvlan actlist	Display the active MAC entries for the dynamic VLAN membership.
eth bridge dynvlan add	Add a dynamic VLAN membership entry.
eth bridge dynvlan config	Modify the dynamic VLAN membership configuration.
eth bridge dynvlan list	Display a dynamic VLAN membership entry.

eth bridge dynvlan flush

Flush all dynamic VLAN membership entries.

SYNTAX:

`eth bridge dynvlan flush`	

eth bridge dynvlan list

Display a dynamic VLAN membership entry.

SYNTAX:

```
eth bridge dynvlan list
```

RELATED COMMANDS:

eth bridge dynvlan actlist	Display the active MAC entries for the dynamic VLAN membership.
eth bridge dynvlan add	Add a dynamic VLAN membership entry.
eth bridge dynvlan config	Modify the dynamic VLAN membership configuration.
eth bridge dynvlan delete	Delete a dynamic VLAN membership entry.

eth bridge flush

Flush bridge interfaces and parameters.

The flush command does not impact previously saved configurations.

SYNTAX:

```
eth bridge flush
```

eth bridge ifadd

Create a new bridge interface.

SYNTAX:

```
eth bridge ifadd  intf = <string>
```

where:

intf	The name of the new bridge interface.	REQUIRED

RELATED COMMANDS:

eth bridge ifdelete	Delete a bridge interface.
eth bridge iflist	Display the current bridge interfaces.

eth bridge ifattach

Attach a bridge interface.

SYNTAX:

```
eth bridge ifattach  intf = <string>
```

where:

intf	The name of the bridge interface to be attached.	REQUIRED

RELATED COMMANDS:

eth bridge ifdetach	Detach a bridge interface.

eth bridge ifconfig

Modify a bridge interface configuration.

SYNTAX:

```
eth bridge ifconfig  intf = <string>
                     [dest = <string>]
                     [portstate = <{disabled | learning | forwarding}>]
                     [retry = <number{0-65535}>]
                     [prioconfig = <{disabled|overwrite|increase}>]
                     [vlan = <string>]
                     [ipprec = <{disabled|precedence|dscp}>]
                     [priority = <number{0-7}>]
                     [regenprio = <string>]
                     [ingressfiltering = <{disabled | enabled}>]
                     [acceptvlanonly = <{disabled | enabled}>]
                     [mcastfilter = <{disabled|enabled}>]
                     [dyngroup = <{disabled|enabled}>]
                     [igmpsnooping = <{disabled|enabled}>]
```

where:

intf	The name of the bridge interface to be configured.	REQUIRED
dest	The destination for this interface. Typically an ATM or a physical interface name.	OPTIONAL
portstate	The bridge portstate for this interface. Choose between: ▸ disabled ▸ learning ▸ forwarding. The default is ***forwarding***.	OPTIONAL
retry	A number between 0 and 65535. Represents the number of times the SpeedTouch™ retries to set up a WAN connection before giving up. The default is ***10***.	OPTIONAL
vlan	Select the default VLAN.	OPTIONAL
prioconfig	The priority configuration for this interface.	OPTIONAL
ipprec	*The IP precedence for this interface.* *Choose between:* ▸ disabled ▸ precedence ▸ dscp. The default is ***disabled***.	OPTIONAL
priority	A number between 0 and 7. Represents the default priority for tagging egress packets. The default is ***0***.	OPTIONAL

regenprio	The priority regeneration table for tagged ingress packets. The default is ***01234567***.	OPTIONAL
ingressfiltering	Enable/disable discard of tagged ingress packets if the interface is not part of the VLAN. The default is ***disabled***.	OPTIONAL
acceptvlanonly	Enable or disable receipt of tagged ingress packets. The default is ***disabled***.	OPTIONAL
mcastfilter	Enable or disable the discard of multicast packets on this port The default is ***disabled***.	OPTIONAL
dyngroup	Enable or disable dynamic group membership checking for this interface.	OPTIONAL
igmpsnooping	Enable or disable IGMP snooping for this interface. The default is ***disabled***.	OPTIONAL

EXAMPLE:

```
=>eth bridge iflist
OBC       : dest : Internal
            ...
...

BrEthoA_br: dest : (none)
            Connection State: not-connected   Retry: 10
            Port: (Unassigned)   PortNr: (Unknown)   PortState: forwarding

=>eth bridge ifconfig intf=BrEthoA_br dest=BrEthhoA_atm
=>eth bridge iflist
OBC       : dest : Internal
            ...
...

BrEthoA_br: dest : BrEthhoA_atm
            Connection State: not-connected   Retry: 10
            Port: (Unassigned)   PortNr: (Unknown)   PortState: forwarding

=>
```

eth bridge ifdelete

Delete a bridge interface.

SYNTAX:

```
eth bridge ifdelete  intf = <string>
```

where:

intf	The name of the bridge interface name to be deleted.	REQUIRED

RELATED COMMANDS:

eth bridge ifadd	Create a new bridge interface.
eth bridge iflist	Display the current bridge interfaces.

eth bridge ifdetach

Detach a bridge interface.

SYNTAX:

```
eth bridge ifdetach  intf = <string>
```

where:

intf	The name of the bridge interface to be detached.	REQUIRED

RELATED COMMANDS:

eth bridge ifattach	Attach a bridge interface.

eth bridge iflist

Display the current bridge interfaces.

SYNTAX:

```
eth bridge iflist  [intf = <string>]
```

where:

intf	The name of the bridge interface to be displayed. **Note** If not specified, all bridge interfaces are shown.	OPTIONAL

RELATED COMMANDS:

eth bridge ifadd	Create a new bridge interface.
eth bridge ifdelete	Delete a bridge interface.

eth bridge macadd

Add a static MAC address to a bridge interface.

This command allows to manually add static MAC addresses, which should normally be dynamically discovered by the bridge itself.

SYNTAX:

```
eth bridge macadd  intf = <string>
                   hwaddr = <hardware-address>
                   [vlan = <string>]
```

where:

intf	The name of the bridge interface to which the MAC address must be added.	REQUIRED
hwaddr	The Ethernet MAC address of the new entry.	REQUIRED
vlan	The VLAN.	OPTIONAL

EXAMPLE:

```
=>eth bridge maclist
00:10:a4:ad:32:cf -- dynamic, ethport1, 300 seconds
00:90:d0:8b:fc:2c -- permanent
01:00:5e:00:00:67 -- static
01:00:5e:7f:ff:fa -- static
01:80:c2:00:00:00 -- permanent
01:80:c2:00:00:01 -- permanent
01:80:c2:00:00:02 -- permanent
01:80:c2:00:00:03 -- permanent
...
01:80:c2:00:00:0e -- permanent
01:80:c2:00:00:0f -- permanent
01:80:c2:00:00:10 -- permanent
ff:ff:ff:ff:ff:ff -- permanent
=>eth bridge macadd intf=ethport2 hwaddr=00:80:9f:01:23:45
=>eth bridge maclist
00:0d:9d:47:dd:aa -- dynamic, ethport1, 300 seconds
00:80:9f:01:23:45 -- static
00:90:d0:72:88:64 -- permanent
01:00:5e:00:00:67 -- static
01:00:5e:7f:ff:fa -- static
01:80:c2:00:00:00 -- permanent
01:80:c2:00:00:01 -- permanent
01:80:c2:00:00:02 -- permanent
01:80:c2:00:00:03 -- permanent
01:80:c2:00:00:0e -- permanent
01:80:c2:00:00:0f -- permanent
01:80:c2:00:00:10 -- permanent
ff:ff:ff:ff:ff:ff -- permanent
=>
```

RELATED COMMANDS:

eth bridge macdelete	Remove a MAC address from the filtering database.
eth bridge maclist	Display the MAC address database.

eth bridge macdelete

Remove a MAC address from the filtering database.

SYNTAX:

```
eth bridge macdelete   hwaddr = <hardware-address>
                       [vlan = <string>]
```

where:

hwaddr	The Ethernet MAC address of the entry to be deleted.	REQUIRED
vlan	The VLAN.	OPTIONAL

EXAMPLE:

```
=>eth bridge maclist
00:0d:9d:47:dd:aa -- dynamic, ethport1
00:80:9f:01:23:45 -- static
00:90:d0:72:88:64 -- permanent
01:00:5e:00:00:67 -- static
01:00:5e:7f:ff:fa -- static
01:80:c2:00:00:00 -- permanent
01:80:c2:00:00:01 -- permanent
01:80:c2:00:00:02 -- permanent
01:80:c2:00:00:03 -- permanent
...
01:80:c2:00:00:0e -- permanent
01:80:c2:00:00:0f -- permanent
01:80:c2:00:00:10 -- permanent
ff:ff:ff:ff:ff:ff -- permanent
=>eth bridge macdelete hwaddr=00:80:9f:01:23:45
=>eth bridge maclist
00:0d:9d:47:dd:aa -- dynamic, ethport1
00:90:d0:72:88:64 -- permanent
01:00:5e:00:00:67 -- static
01:00:5e:7f:ff:fa -- static
01:80:c2:00:00:00 -- permanent
01:80:c2:00:00:01 -- permanent
01:80:c2:00:00:02 -- permanent
01:80:c2:00:00:03 -- permanent
01:80:c2:00:00:0e -- permanent
01:80:c2:00:00:0f -- permanent
01:80:c2:00:00:10 -- permanent
ff:ff:ff:ff:ff:ff -- permanent
=>
```

RELATED COMMANDS:

eth bridge macadd	Add a static MAC address to a bridge interface.
eth bridge maclist	Display the MAC address database.

eth bridge maclist

Display the MAC address database.

SYNTAX:

```
eth bridge maclist
```

EXAMPLE:

```
=>eth bridge maclist
00:0d:9d:47:dd:aa -- dynamic, ethport1, 300 seconds
00:90:d0:72:88:64 -- permanent
01:00:5e:00:00:67 -- static
01:00:5e:7f:ff:fa -- static
01:80:c2:00:00:00 -- permanent
01:80:c2:00:00:01 -- permanent
01:80:c2:00:00:02 -- permanent
01:80:c2:00:00:03 -- permanent
01:80:c2:00:00:04 -- permanent
01:80:c2:00:00:05 -- permanent
01:80:c2:00:00:06 -- permanent
01:80:c2:00:00:07 -- permanent
01:80:c2:00:00:08 -- permanent
01:80:c2:00:00:09 -- permanent
01:80:c2:00:00:0a -- permanent
01:80:c2:00:00:0b -- permanent
01:80:c2:00:00:0c -- permanent
01:80:c2:00:00:0d -- permanent
01:80:c2:00:00:0e -- permanent
01:80:c2:00:00:0f -- permanent
01:80:c2:00:00:10 -- permanent
ff:ff:ff:ff:ff:ff -- permanent
=>
```

RELATED COMMANDS:

eth bridge macadd	Add a static MAC address to a bridge interface.
eth bridge macdelete	Remove a MAC address from the filtering database.

eth bridge mcdadd

Add a multicast group to be dropped to the database.

SYNTAX:

```
eth bridge mcdadd   srcintfs = <string or combination of strings separated by
                               '+'}>
                    dstintfs = <string or combination of strings separated by
                               '+'}>
```

where:

srcports	The source bridge interfaces from which multicast packets must be dropped.	REQUIRED
dstports	The destination bridge interfaces for which the multicast packets must be dropped.	REQUIRED

RELATED COMMANDS:

eth bridge mcddelete	Delete a multicast group to be dropped from the database.
eth bridge mcdlist	Display the multicast group to be dropped from the database.

eth bridge mcddelete

Delete a multicast group to be dropped from the database.

SYNTAX:

```
eth bridge mcddelete
```

RELATED COMMANDS:

eth bridge mcdadd	Add a multicast group to be dropped to the database.
eth bridge mcdlist	Display the multicast group to be dropped from the database.

eth bridge mcdlist

Display the multicast group to be dropped from the database.

SYNTAX:

```
eth bridge mcdlist
```

RELATED COMMANDS:

eth bridge mcdadd	Add a multicast group to be dropped to the database.
eth bridge mcddelete	Delete a multicast group to be dropped from the database.

eth bridge group add

Add a new bridge group.

SYNTAX:

```
eth bridge group add   [name = <string>]
                       id = <number{2-4094}>
```

where:

name	The name of the new bridge group. **Note** If left blank, a default name will be used.	OPTIONAL
id	A number between 2 and 4094. Represents the bridge group ID.	REQUIRED

EXAMPLE:

```
=>eth bridge group list
Index    Name             Bridge interfaces
1        default          OBC, ethport1, ethport2, ethport3, ethport4
=>eth bridge group  add name=myGroup id=2
=>eth bridge group list
Index    Name             Bridge interfaces
1        default          OBC, ethport1, ethport2, ethport3, ethport4
2        myGroup
=>
```

RELATED COMMANDS:

eth bridge group delete	Delete a bridge group.
eth bridge group list	Display the bridge groups.

eth bridge group delete

Delete a bridge group.

SYNTAX:

```
eth bridge group delete  name = <string>
                         id = <number{2-4094}>
```

where:

name	The name of the bridge group to be deleted.	REQUIRED

EXAMPLE:

```
=>eth bridge group list
Index    Name            Bridge interfaces
1        default         OBC, ethport1, ethport2, ethport3, ethport4
2        myGroup         usbport1
=>eth bridge group  delete name=myGroup
=>eth bridge group list
Index    Name            Bridge interfaces
1        default         OBC, ethport1, ethport2, ethport3, ethport4, usbport1
=>
```

RELATED COMMANDS:

eth bridge group add	Add a new bridge group.
eth bridge group list	Display the bridge groups.

eth bridge group flush

Flush all bridge groups.

SYNTAX:

```
eth bridge group flush
```

eth bridge group list

Display the bridge groups.

SYNTAX:

```
eth bridge group list
```

EXAMPLE:

```
=>eth bridge group list
Index     Name             Bridge interfaces
1         default          OBC, ethport1, ethport2, ethport3, ethport4
2         myGroup          usbport1
=>
```

RELATED COMMANDS:

eth bridge group add	Add a new bridge group.
eth bridge group delete	Delete a bridge group.

eth bridge group move

Move a bridge interface to a specified bridge group.

SYNTAX:

```
eth bridge group move  intf = <string>
                       name = <string>
```

where:

intf	The name of the bridge interface to be moved to the bridge group.	REQUIRED
name	The name of the bridge group.	REQUIRED

EXAMPLE:

```
=>eth bridge group list
Index    Name            Bridge interfaces
1        default         OBC, ethport1, ethport2, ethport3, ethport4, usbport1
2        myGroup
=>eth bridge group move intf=usbport1 name=myGroup
=>eth bridge group list
Index    Name            Bridge interfaces
1        default         OBC, ethport1, ethport2, ethport3, ethport4
2        myGroup         usbport1
=>
```

eth bridge rule add

Add a new constraint to the VLAN learning system.

SYNTAX:

```
eth bridge rule add   type = <{shared | independent}>
                      vlan = <string>
                      [vlan2 = <string>]
                      [isi = <number{0-32}>]
```

where:

type	Type of constraint. Choose between: - shared - independent.	REQUIRED
vlan	The VLAN to which the constraint belongs.	REQUIRED
vlan2	The second VLAN for a shared constraint. **Note** This parameter is required when type is ***shared***.	OPTIONAL
isi	A number between 0 and 32. Represents the Independent Set ID (ISI) for an independent constraint. **Note** This parameter is required when type is ***independent***.	OPTIONAL

EXAMPLE:

```
=>eth bridge rule add type=independant vlan=default isi=1
=>eth bridge rule list
Index    Type         VLAN                             Parameter
-----    ----         ----                             ---------
1        independant  default                          Independent set identifier: 1
=>
```

RELATED COMMANDS:

eth bridge rule delete	Delete a constraint from the VLAN learning system.
eth bridge rule list	Display all constraints from the VLAN learning system.

eth bridge rule delete

Delete a constraint from the VLAN learning system.

SYNTAX:

```
eth bridge rule delete  index = <number{0-32}>
```

where:

index	Index of the constraint to be deleted. **Tip** Use the command **:eth bridge rule list** to obtain a list of the indexes of the constraints.	REQUIRED

EXAMPLE:

```
=>eth bridge rule list
Index    Type         VLAN                              Parameter
-----    ----         ----                              ---------
1        independant  default                           Independent set identifier: 1
=>eth bridge rule delete index=1
=>eth bridge rule list
Index    Type         VLAN                              Parameter
-----    ----         ----                              ---------
=>
```

RELATED COMMANDS:

eth bridge rule add	Add a new constraint to the VLAN learning system.
eth bridge rule list	Display all constraints from the VLAN learning system.

eth bridge rule flush

Flush all constraints from the VLAN learning system.

SYNTAX:

```
eth bridge rule flush
```

eth bridge rule list

Display all constraints from the VLAN learning system.

SYNTAX:

```
eth bridge rule list
```

EXAMPLE:

```
=>eth bridge rule list
Index    Type         VLAN                              Parameter
-----    ----         ----                              ---------
1        independant  default                           Independent set identifier: 1
=>
```

RELATED COMMANDS:

eth bridge rule add	Add a new constraint to the VLAN learning system.
eth bridge rule delete	Delete a constraint from the VLAN learning system.

eth bridge vlan ifadd

Add a bridge interface to a VLAN.

SYNTAX:

```
eth bridge vlan ifadd  name = <string>
                       intf = <string>
                       [untagged = <{disabled | enabled}>]
```

where:

name	The VLAN name to which a bridge interface must be added.	REQUIRED
intf	The name of the bridge interface to be added to the VLAN.	REQUIRED
untagged	Enable or disable the interface as untagged for this VLAN. The default is ***disabled***.	OPTIONAL

RELATED COMMANDS:

eth bridge vlan ifconfig	Modify a bridge interface from a VLAN.
eth bridge vlan ifdelete	Delete a bridge interface from a VLAN.
eth bridge vlan iflist	Display all VLANs.

eth bridge vlan ifconfig

Modify a bridge interface from a VLAN.

SYNTAX:

```
eth bridge vlan ifconfig  name = <string>
                          intf = <string>
                          untagged = <{disabled | enabled}>
```

where:

name	The VLAN name for which a bridge interface must be modified.	REQUIRED
intf	The name of the bridge interface to be modified.	REQUIRED
untagged	Enable or disable the interface as untagged for this VLAN.	REQUIRED

RELATED COMMANDS:

eth bridge vlan ifadd	Add a bridge interface to a VLAN.
eth bridge vlan ifdelete	Delete a bridge interface from a VLAN.
eth bridge vlan iflist	Display all VLANs.

eth bridge vlan ifdelete

Delete a bridge interface from a VLAN.

SYNTAX:

```
eth bridge vlan ifdelete  name = <string>
                          intf = <string>
```

where:

name	The VLAN name for which a bridge interface must be deleted.	REQUIRED
intf	The name of the bridge interface to be deleted.	REQUIRED

RELATED COMMANDS:

eth bridge vlan ifadd	Add a bridge interface to a VLAN.
eth bridge vlan ifconfig	Modify a bridge interface from a VLAN.
eth bridge vlan iflist	Display all VLANs.

eth bridge vlan iflist

Display all VLANs.

SYNTAX:

```
eth bridge vlan iflist
```

RELATED COMMANDS:

eth bridge vlan ifadd	Add a bridge interface to a VLAN.
eth bridge vlan ifconfig	Modify a bridge interface from a VLAN.
eth bridge vlan ifdelete	Delete a bridge interface from a VLAN.

eth device ifconfig

Configure an Ethernet interface.

SYNTAX:

```
eth device ifconfig  intf = <string>
                     [type = <{auto | 10BaseTHD | 10BaseTFD | 100BaseTHD
                                | 100BaseTFD} or number>]
                     [state = <{enabled | disabled}>]
```

where:

intf	The name of a physical interface.	REQUIRED
type	The Ethernet type. Select either: - ***auto***: Auto negotiation of Ethernet communication speed (10Mb/s or 100Mb/s) and Duplex mode (half duplex or full duplex). - ***10BaseTHD***: 10Mb/s communication speed in half duplex mode. - ***10BaseTFD***: 10Mb/s communication speed in full duplex mode. - ***100BaseTHD***: 100Mb/s communication speed in half duplex mode. - ***100BaseTFD***: 100Mb/s communication speed in full duplex mode. or enter a number between 0 (auto) and 5 (100BaseTFD). The default is ***auto***. **Note** This value should never be changed, except in case of communication problems.	OPTIONAL
state	Enable or disable the interface. The default is ***enabled***.	OPTIONAL

EXAMPLE:

```
=>eth device iflist
Interface        Type             Result           State
ethif1           auto             100BaseTFD       UP [forwarding]
ethif2           auto             100BaseTFD       UP [forwarding]
ethif3           auto             100BaseTFD       UP [forwarding]
ethif4           auto             100BaseTFD       UP [forwarding]
usbif1                                             UP [forwarding]
=>eth device ifconfig intf=ethif4 state=disabled
=>eth device iflist
Interface        Type             Result           State
ethif1           auto             100BaseTFD       UP [forwarding]
ethif2           auto             100BaseTFD       UP [forwarding]
ethif3           auto             100BaseTFD       UP [forwarding]
ethif4           auto             100BaseTFD       DOWN [disabled]
usbif1                                             UP [forwarding]
=>
```

RELATED COMMANDS:

eth device iflist	Show status of Ethernet interfaces.

eth device iflist

Show status of Ethernet interfaces.

SYNTAX:

```
eth device iflist
```

EXAMPLE:

```
=>eth device iflist
Interface       Type            Result          State
ethif1          auto            100BaseTFD      UP [forwarding]
ethif2          auto            100BaseTFD      UP [forwarding]
ethif3          auto            100BaseTFD      UP [forwarding]
ethif4          auto            100BaseTFD      UP [forwarding]
usbif1                                          UP [forwarding]
wlif1                                           UP [forwarding]
wlif2                                           UP [forwarding]
wlif3                                           UP [forwarding]
wlif4                                           UP [forwarding]
wlif5                                           UP [forwarding]
=>
```

DESCRIPTION:

- ***Type***: Indicates the configured Ethernet communication speed and duplex mode.
- ***Result*** : Indicates the effective operating status if Type equals “auto”. In other cases, when the Ethernet types do NOT match, Result Type will equal “unknown” and no Ethernet connectivity will exist.

RELATED COMMANDS:

eth device ifconfig	Configure an Ethernet interface.

eth switch share add

Add a port to be shared.

SYNTAX:

`eth switch share add`	`port = <number{1-4}>`
	`shared = <number{1-4}>`

where:

port	A number between 1 and 4. Represents the port.	REQUIRED
shared	A number between 1 and 4. Represents the shared port.	REQUIRED

RELATED COMMANDS:

eth switch share delete	Delete a shared port.
eth switch share list	Display shared ports.

eth switch share delete

Delete a shared port.

SYNTAX:

`eth switch share delete`	`port = <number{1-4}>`
	`shared = <number{1-4}>`

where:

port	A number between 1 and 4. Represents the port.	REQUIRED
shared	A number between 1 and 4. Represents the shared port.	REQUIRED

RELATED COMMANDS:

eth switch share add	Add a port to be shared.
eth switch share list	Display shared ports.

eth switch share list

Display shared ports.

SYNTAX:

```
eth switch share list
```

RELATED COMMANDS:

eth switch share add	Add a port to be shared.
eth switch share delete	Delete a shared port.

eth vlan add

Add a new VLAN.

SYNTAX:

```
eth vlan add  name = <string>

              vid = <number{2-4094}>
              [addrule = <{disabled | enabled}>]
```

where:

name	The new VLAN name.	REQUIRED
vid	A number between 2 and 4094. Represents the new VLAN ID. **Note** The ID 1 is reserved for the default VLAN.	REQUIRED
addrule	Add (enabled) the default bridge constraint or not (disabled). The default is ***enabled***.	OPTIONAL

EXAMPLE:

```
=>eth vlan list
Vid       Name
---       ----
1         default
=>eth vlan add name=myVLAN vid=2
=>eth vlan list
Vid       Name
---       ----
1         default
2         myVLAN
=>
```

RELATED COMMANDS:

eth vlan delete	Delete a VLAN.
eth vlan list	Display all VLANs.

eth vlan delete

Delete a VLAN.

SYNTAX:

```
eth vlan delete  name = <string>
```

where:

name	The name of the VLAN to be deleted.	REQUIRED

EXAMPLE:

```
=>eth vlan list
Vid      Name
---      ----
1        default
2        myVLAN
=>eth vlan delete name=myVLAN vid=2
=>eth vlan list
Vid      Name
---      ----
1        default
=>
```

RELATED COMMANDS:

eth vlan add	Add a new VLAN.
eth vlan list	Display all VLANs.

eth vlan flush

Flush all VLANs.

All the VLANs, except the default VLAN will be flushed.

SYNTAX:

```
eth vlan flush
```

EXAMPLE:

```
=>eth vlan list
Vid       Name
---       ----
1         default
2         myVLAN
3         yourVLAN
=>eth vlan flush
=>eth vlan list
Vid       Name
---       ----
1         default
=>
```

eth vlan list

Display all VLANs.

SYNTAX:

```
eth vlan list
```

EXAMPLE:

```
=>eth vlan list
Vid       Name
---       ----
1         default
2         myVLAN
=>
```

RELATED COMMANDS:

eth vlan add	Add a new VLAN.
eth vlan delete	Delete a VLAN.

Expr Commands

Introduction

This chapter describes the commands of the **expr** command group.

Contents

This chapter covers the following commands:

expr add

Add a subexpression to an expression.

SYNTAX:

```
expr add   name = <string>
           type = <{intf | ip | serv}>
           addr [!]= <ip-range>
           [intf [!]= <string>]
           [intfgroup [!]= <{wan|local|lan|tunnel|dmz|guest} or number>]
           [tos [!]= <number{0-255}>]
           [precedence [!]= <IP precedence type> or <number>]
           [dscp [!]= <DSCP name> or <number>]
           [proto = <supported IP protocol name> or <number>]
           [srcport [!]= <supported TCP/UDP port name> or <number>]
           [srcportend = <supported TCP/UDP port name> or <number>]
           [dstport [!]= <supported TCP/UDP port name> or <number>]
           [dstportend = <supported TCP/UDP port name> or <number>]
           [icmptype [!]= <supported ICMP type name> or <number>]
           [icmpcode [!]= <number{0-15}>]
           [icmpcodeend = <number{0-15}>]
```

If a value is preceded by a "!", it means NOT.
For example "intfgroup=!wan" means "if the interface group is different from WAN".

where:

name	The name of an existing expression.	REQUIRED
type	The expression type. Choose between: - intf - ip - serv.	REQUIRED
addr	The IP address (or range). Supports ip/mask notation. **Note** Only for expression type ***ip***.	REQUIRED
intf	The IP interface name. **Note** Only for expression type ***intf***.	OPTIONAL
intfgroup	The IP interface group. Choose between: - wan - local - lan - tunnel - dmz - guest. **Note** Only for expression type ***intf***.	OPTIONAL

tos	A number between 0 and 255. Represents the Type of Service (ToS) specification in the IP packet. **Note** The parameters ***tos***, ***precedence*** and ***dscp*** are mutually exclusive.	OPTIONAL
precedence	The precedence in the IP packet (part of tos). Select an IP precedence (see “ IP Precedence” on page 618) or, alternatively, specify the number. **Note** The parameters ***tos***, ***precedence*** and ***dscp*** are mutually exclusive.	OPTIONAL
dscp	The Differentiated Services Code Point (DSCP) in the IP packet (part of tos). Select a DSCP (see “ Differentiated Services Code Point (DSCP)” on page 619) or, alternatively, specify the number. **Note** The parameters ***tos***, ***precedence*** and ***dscp*** are mutually exclusive.	OPTIONAL
proto	The protocol (name or number) expected in the IP packet. Select one of the following protocols: ***icmp***, ***igmp***, ***ipinip***, ***tcp***, ***udp***, ***ah***, ***esp***, ***ipcomp*** or, alternatively, specify the protocol number.	OPTIONAL
srcport	The TCP/UDP port (or beginning of range) the packet is coming from. Select one of the supported TCP/UDP port names (see “ Supported TCP/UDP Port Names” on page 613) or, alternatively, specify the port number.	OPTIONAL
srcportend	The source TCP/UDP port range end (inclusive). Select one of the supported TCP/UDP port names (see “ Supported TCP/UDP Port Names” on page 613) or, alternatively, specify the port number.	OPTIONAL
dstport	The TCP/UDP port (or beginning of range) the packet is going to. Select one of the supported TCP/UDP port names (see “ Supported TCP/UDP Port Names” on page 613) or, alternatively, specify the port number.	OPTIONAL
dstportend	The destination TCP/UDP port range end. (inclusive). Select one of the supported TCP/UDP port names (see “ Supported TCP/UDP Port Names” on page 613) or, alternatively, specify the port number.	OPTIONAL
icmptype	The Internet Control Message Protocol (ICMP) type (name or number) of the packet. Select one of the supported ICMP types (see “ Supported ICMP Type Names” on page 616) or, alternatively, specify the type number.	OPTIONAL
icmpcode	A number between 0 and 15. Represents the ICMP code (or beginning of range) of the packet.	OPTIONAL
icmpcodeend	A number between 0 and 15. Represents the ICMP code range end (inclusive).	OPTIONAL

EXAMPLE:

```
=>expr list
name                             type    use flags expression

------------------------------------------------------------------------------------------
_myPPP_ppp                       intf      0 D     1. intf=myPPP_ppp
_eth0                            intf      0 D     1. intf=eth0
wan                              intf      0       1. intfgroup=0
lan                              intf     28       1. intfgroup=2
local                            intf      0       1. intfgroup=1
notwan                           intf      1       1. intfgroup=2
                                                   2. intfgroup=1
_10.0.0.138                      ip        0 D     1. addr=10.0.0.138
_192.168.1.254                   ip        0 D     1. addr=192.168.1.254

...

DiffServ                         serv      0       1. dscp=!0
sip                              serv      1       1. proto=17 dst-prt=5060
                                                   2. proto=6 dst-prt=5060
h323                             serv      1       1. proto=6 dst-prt=1720
                                                   2. proto=17 dst-prt=1718
                                                   3. proto=17 dst-prt=1719

=>expr add name=myEXPR type=intf intf=Internet intfgroup=lan
=>expr list
name                             type    use flags expression

------------------------------------------------------------------------------------------
_myPPP_ppp                       intf      0 D     1. intf=myPPP_ppp
_eth0                            intf      0 D     1. intf=eth0
wan                              intf      0       1. intfgroup=0
lan                              intf     28       1. intfgroup=2
local                            intf      0       1. intfgroup=1
notwan                           intf      1       1. intfgroup=2
                                                   2. intfgroup=1
myEXPR                           intf      0       1. intf=Internet intfgroup=2
_10.0.0.138                      ip        0 D     1. addr=10.0.0.138
_192.168.1.254                   ip        0 D     1. addr=192.168.1.254

...

DiffServ                         serv      0       1. dscp=!0
sip                              serv      1       1. proto=17 dst-prt=5060
                                                   2. proto=6 dst-prt=5060
h323                             serv      1       1. proto=6 dst-prt=1720
                                                   2. proto=17 dst-prt=1718
                                                   3. proto=17 dst-prt=1719
=>
```

RELATED COMMANDS:

expr delete	Delete an expression.
expr list	List the expressions.

expr delete

Delete an expression.

SYNTAX:

```
expr delete  name = <string>
             [index = <number>]
```

where:

name	The name of the expression to be deleted.	REQUIRED
index	The index of the subexpression to be deleted. **Note** If not specified, all the subexpressions wil be deleted.	OPTIONAL

EXAMPLE:

```
=>expr list
name                             type    use flags expression

-------------------------------------------------------------------------------------------
_myPPP_ppp                       intf      0 D     1. intf=myPPP_ppp
_eth0                            intf      0 D     1. intf=eth0
wan                              intf      0       1. intfgroup=0
lan                              intf     28       1. intfgroup=2
local                            intf      0       1. intfgroup=1
notwan                           intf      1       1. intfgroup=2
                                                   2. intfgroup=1
myEXPR                           intf      0       1. intf=Internet intfgroup=2
_10.0.0.138                      ip        0 D     1. addr=10.0.0.138
_192.168.1.254                   ip        0 D     1. addr=192.168.1.254

...

DiffServ                         serv      0       1. dscp=!0
sip                              serv      1       1. proto=17 dst-prt=5060
                                                   2. proto=6 dst-prt=5060
h323                             serv      1       1. proto=6 dst-prt=1720
                                                   2. proto=17 dst-prt=1718
                                                   3. proto=17 dst-prt=1719

=>expr delete name=myEXPR
=>expr list
name                             type    use flags expression

-------------------------------------------------------------------------------------------
_myPPP_ppp                       intf      0 D     1. intf=myPPP_ppp
_eth0                            intf      0 D     1. intf=eth0
wan                              intf      0       1. intfgroup=0
lan                              intf     28       1. intfgroup=2
local                            intf      0       1. intfgroup=1
notwan                           intf      1       1. intfgroup=2
                                                   2. intfgroup=1
_10.0.0.138                      ip        0 D     1. addr=10.0.0.138
_192.168.1.254                   ip        0 D     1. addr=192.168.1.254

...

DiffServ                         serv      0       1. dscp=!0
sip                              serv      1       1. proto=17 dst-prt=5060
                                                   2. proto=6 dst-prt=5060
h323                             serv      1       1. proto=6 dst-prt=1720
                                                   2. proto=17 dst-prt=1718
                                                   3. proto=17 dst-prt=1719
=>
```

RELATED COMMANDS:

expr add	Add a subexpression to an expression.
expr list	List the expressions.

expr flush

Flush all the expressions.

SYNTAX:

```
expr flush
```

expr list

List the expressions.

SYNTAX:

```
expr list   [name = <string>]
            [type = <{intf | ip | serv}>]
            [format = <{pretty | cli}>]
```

where:

name	The name of an existing expression. **Note** If not specified, all the expressions will be listed.	OPTIONAL
type	The expression type. Choose between: - intf - ip - serv. **Note** If not specified, the expressions of all types will be shown.	OPTIONAL
format	Select the output format of the list. Choose between: - ***pretty***: the expressions are shown as intuitive output in clear text. - ***cli***: the expressions are shown via the CLI commands configuration. The default is ***pretty***.	OPTIONAL

EXAMPLE 1:

```
=>expr list
name                             type    use flags expression
------------------------------------------------------------------------------------------
_Internet                        intf      0 D     1. intf=Internet
_LocalNetwork                    intf      0 D     1. intf=LocalNetwork
HTTPI_if_0                       intf      1 D     1. intf=LocalNetwork
                                                   2. intf=LocalNetwork
                                                   3. intf=LocalNetwork

HTTP_if_0                        intf      1 D     1. intfgroup=2
HTTPs_if_0                       intf      1 D     1. intfgroup=2
FTP_if_0                         intf      1 D     1. intfgroup=2
TELNET_if_0                      intf      1 D     1. intfgroup=2
DNS-S_if_0                       intf      1 D     1. intfgroup=2
SNMP_AGENT_if_0                  intf      1 D     1. intfgroup=2
PING_RESPONDER_if_0              intf      1 D     1. intfgroup=2
wan                              intf      1       1. intfgroup=0
lan                              intf      2       1. intfgroup=2
local                            intf      0       1. intfgroup=1
_10.0.0.138                      ip        0 D     1. addr=10.0.0.138
_192.168.1.254                   ip        0 D     1. addr=192.168.1.254
private                          ip        0       1. addr=10.0.0.0/8
                                                   2. addr=172.[16-31].*.*
                                                   3. addr=192.168.1.0/24

ssdp_ip                          ip        1       1. addr=239.255.255.250
mdap_ip                          ip        1       1. addr=224.0.0.103
HTTP_sv_0                        serv      1 D     1. proto=6 dst-prt=80
HTTPs_sv_0                       serv      1 D     1. proto=6 dst-prt=443
FTP_sv_0                         serv      1 D     1. proto=6 dst-prt=21
TELNET_sv_0                      serv      1 D     1. proto=6 dst-prt=23
RIP_sv_0                         serv      1 D     1. proto=17 src-prt=520 dst-prt=520
RIP-Query_sv_0                   serv      1 D     1. proto=17 dst-prt=520
DNS-S_sv_0                       serv      1 D     1. proto=17 dst-prt=53
SNMP_AGENT_sv_0                  serv      1 D     1. proto=17 dst-prt=161
RAS_sv_0                         serv      1 D     1. proto=6 dst-prt=80
SRAS_sv_0                        serv      1 D     1. proto=6 dst-prt=443
ICMP_LISTEN_sv_0                 serv      1 D     1. proto=1
SENDTO_LISTEN_sv_0               serv      1 D     1. proto=17
PING_RESPONDER_sv_0              serv      1 D     1. proto=1 icmp-type=8
HTTPI_sv_0                       serv      1 D     1. proto=6 dst-prt=8080
icmp                             serv      1       1. proto=1
igmp                             serv      2       1. proto=2
ftp                              serv      0       1. proto=6 dst-prt=21
telnet                           serv      1       1. proto=6 dst-prt=23
http                             serv      1       1. proto=6 dst-prt=80
httpproxy                        serv      1       1. proto=6 dst-prt=8080
https                            serv      1       1. proto=6 dst-prt=443
RPC                              serv      0       1. proto=6 dst-prt=135
NBT                              serv      0       1. proto=17 dst-prt=137
                                                   2. proto=17 dst-prt=138
                                                   3. proto=6 dst-prt=139

SMB                              serv      0       1. proto=6 dst-prt=445
imap                             serv      1       1. proto=6 dst-prt=143
imap3                            serv      1       1. proto=6 dst-prt=220
imap4-ssl                        serv      1       1. proto=6 dst-prt=585
imaps                            serv      1       1. proto=6 dst-prt=993
pop2                             serv      1       1. proto=6 dst-prt=109
pop3                             serv      1       1. proto=6 dst-prt=110
pop3s                            serv      1       1. proto=6 dst-prt=995
smtp                             serv      1       1. proto=6 dst-prt=25
ssh                              serv      0       1. proto=6 dst-prt=22
dns                              serv      1       1. proto=6 dst-prt=53
                                                   2. proto=17 dst-prt=53

nntp                             serv      0       1. proto=6 dst-prt=119
ipsec                            serv      0       1. proto=51
                                                   2. proto=50
                                                   3. proto=17 src-prt=500 dst-prt=500

esp                              serv      1       1. proto=50
ah                               serv      1       1. proto=51
ike                              serv      1       1. proto=17 dst-prt=500
DiffServ                         serv      0       1. dscp=!0
sip                              serv      1       1. proto=17 dst-prt=5060
                                                   2. proto=6 dst-prt=5060

h323                             serv      1       1. proto=6 dst-prt=1720
                                                   2. proto=17 dst-prt=1718
                                                   3. proto=17 dst-prt=1719

dhcp                             serv      1       1. proto=17 dst-prt=68
                                                   2. proto=17 dst-prt=67

rtsp                             serv      1       1. proto=17 dst-prt=554
                                                   2. proto=6 dst-prt=554

ssdp_serv                        serv      1       1. proto=17 dst-prt=1900
mdap_serv                        serv      1       1. proto=17 dst-prt=3235
=>
```

EXAMPLE 2:

```
=>expr list format=cli
:expr add name=_Internet type=intf intf=Internet
:expr add name=_LocalNetwork type=intf intf=LocalNetwork
:expr add name=HTTPI_if_0 type=intf intf=LocalNetwork
:expr add name=HTTPI_if_0 type=intf intf=LocalNetwork
:expr add name=HTTPI_if_0 type=intf intf=LocalNetwork
:expr add name=HTTP_if_0 type=intf intfgroup=lan
:expr add name=HTTPs_if_0 type=intf intfgroup=lan
:expr add name=FTP_if_0 type=intf intfgroup=lan
:expr add name=TELNET_if_0 type=intf intfgroup=lan
:expr add name=DNS-S_if_0 type=intf intfgroup=lan
:expr add name=SNMP_AGENT_if_0 type=intf intfgroup=lan
:expr add name=PING_RESPONDER_if_0 type=intf intfgroup=lan
:expr add name=wan type=intf intfgroup=wan
:expr add name=lan type=intf intfgroup=lan
:expr add name=local type=intf intfgroup=local
:expr add name=_10.0.0.138 type=ip addr=10.0.0.138
:expr add name=_192.168.1.254 type=ip addr=192.168.1.254
:expr add name=private type=ip addr=10.0.0.0/8
:expr add name=private type=ip addr=172.[16-31].*.*
:expr add name=private type=ip addr=192.168.1.0/24
:expr add name=ssdp_ip type=ip addr=239.255.255.250
:expr add name=mdap_ip type=ip addr=224.0.0.103
:expr add name=HTTP_sv_0 type=serv proto=tcp dstport=www-http
:expr add name=HTTPs_sv_0 type=serv proto=tcp dstport=443
:expr add name=FTP_sv_0 type=serv proto=tcp dstport=ftp
:expr add name=TELNET_sv_0 type=serv proto=tcp dstport=telnet
:expr add name=RIP_sv_0 type=serv proto=udp srcport=rip dstport=rip
:expr add name=RIP-Query_sv_0 type=serv proto=udp dstport=rip
:expr add name=DNS-S_sv_0 type=serv proto=udp dstport=dns
:expr add name=SNMP_AGENT_sv_0 type=serv proto=udp dstport=snmp
:expr add name=RAS_sv_0 type=serv proto=tcp dstport=www-http
:expr add name=SRAS_sv_0 type=serv proto=tcp dstport=443
:expr add name=ICMP_LISTEN_sv_0 type=serv proto=icmp
:expr add name=SENDTO_LISTEN_sv_0 type=serv proto=udp
:expr add name=PING_RESPONDER_sv_0 type=serv proto=icmp icmptype=echo-request
:expr add name=HTTPI_sv_0 type=serv proto=tcp dstport=httpproxy
:expr add name=icmp type=serv proto=icmp
:expr add name=igmp type=serv proto=igmp
:expr add name=ftp type=serv proto=tcp dstport=ftp
:expr add name=telnet type=serv proto=tcp dstport=telnet
:expr add name=http type=serv proto=tcp dstport=www-http
:expr add name=httpproxy type=serv proto=tcp dstport=httpproxy
:expr add name=https type=serv proto=tcp dstport=443
:expr add name=RPC type=serv proto=tcp dstport=135
:expr add name=NBT type=serv proto=udp dstport=netbios-ns
:expr add name=NBT type=serv proto=udp dstport=netbios-dgm
:expr add name=NBT type=serv proto=tcp dstport=netbios-ssn
:expr add name=SMB type=serv proto=tcp dstport=445
:expr add name=imap type=serv proto=tcp dstport=imap2
:expr add name=imap3 type=serv proto=tcp dstport=imap3
:expr add name=imap4-ssl type=serv proto=tcp dstport=585
:expr add name=imaps type=serv proto=tcp dstport=993
:expr add name=pop2 type=serv proto=tcp dstport=pop2
:expr add name=pop3 type=serv proto=tcp dstport=pop3
:expr add name=pop3s type=serv proto=tcp dstport=995
:expr add name=smtp type=serv proto=tcp dstport=smtp
:expr add name=ssh type=serv proto=tcp dstport=22
:expr add name=dns type=serv proto=tcp dstport=dns
:expr add name=dns type=serv proto=udp dstport=dns
:expr add name=nntp type=serv proto=tcp dstport=nntp
:expr add name=ipsec type=serv proto=ah
:expr add name=ipsec type=serv proto=esp
:expr add name=ipsec type=serv proto=udp srcport=ike dstport=ike
:expr add name=esp type=serv proto=esp
:expr add name=ah type=serv proto=ah
:expr add name=ike type=serv proto=udp dstport=ike
:expr add name=DiffServ type=serv dscp=!cs0
:expr add name=sip type=serv proto=udp dstport=sip
:expr add name=sip type=serv proto=tcp dstport=sip
:expr add name=h323 type=serv proto=tcp dstport=h323
:expr add name=h323 type=serv proto=udp dstport=1718
:expr add name=h323 type=serv proto=udp dstport=1719
:expr add name=dhcp type=serv proto=udp dstport=bootpc
:expr add name=dhcp type=serv proto=udp dstport=bootps
:expr add name=rtsp type=serv proto=udp dstport=rtsp
:expr add name=rtsp type=serv proto=tcp dstport=rtsp
:expr add name=ssdp_serv type=serv proto=udp dstport=1900
:expr add name=mdap_serv type=serv proto=udp dstport=3235=>
```

RELATED COMMANDS:

expr add	Add a subexpression to an expression.
expr delete	Delete an expression.

expr modify

Modify an expression.

SYN TAX:

```
expr modify  name = <string>
             type = <{intf | ip | serv}>
             index = <number>
             addr [!]= <ip-range>
             [intf [!]= <string>]
             [intfgroup [!]= <{wan|local|lan|tunnel|dmz|guest} or number>]
             [bridgeport [!]= <number>]
             [tos [!]= <number{0-255}>]
             [precedence [!]= <IP precedence type> or <number>]
             [dscp [!]= <DSCP name> or <number>]
             [proto = <supported IP protocol name> or <number>]
             [srcport [!]= <supported TCP/UDP port name> or <number>]
             [srcportend = <supported TCP/UDP port name> or <number>]
             [dstport [!]= <supported TCP/UDP port name> or <number>]
             [dstportend = <supported TCP/UDP port name> or <number>]
             [icmptype [!]= <supported ICMP type name> or <number>]
             [icmpcode [!]= <number{0-15}>]
             [icmpcodeend = <number{0-15}>]
```

If a value is preceded by a “!”, it means NOT.
For example “intfgroup=!wan” means “if the interface group is different from WAN”.

where:

name	The name of the expression to be modified.	REQUIRED
type	The expression type. Choose between: ▸ intf ▸ ip ▸ serv.	REQUIRED
number	The index of the subexpression to be modified. **Tip** Use the command `:expr list` to obtain the indexes of the subexpressions.	REQUIRED
addr	The IP address (or range). Supports ip/mask notation. **Note** Only for expression type ***ip***.	REQUIRED
intf	The IP interface name. **Note** Only for expression type ***intf***.	OPTIONAL

intfgroup	The IP interface group. Choose between: - wan - local - lan - tunnel - dmz - guest. **Note** Only for expression type ***intf***.	OPTIONAL
bridgeport	The bridge port number. **Note** Only for expression type ***intf***.	OPTIONAL
tos	A number between 0 and 255. Represents the ToS specification in the IP packet. **Note** The parameters ***tos***, ***precedence*** and ***dscp*** are mutually exclusive.	OPTIONAL
precedence	The precedence in the IP packet (part of tos). Select an IP precedence (see “ IP Precedence” on page 618) or, alternatively, specify the number. **Note** The parameters ***tos***, ***precedence*** and ***dscp*** are mutually exclusive.	OPTIONAL
dscp	The DSCP in the IP packet (part of tos). Select a DSCP (see “ Differentiated Services Code Point (DSCP)” on page 619). **Note** The parameters ***tos***, ***precedence*** and ***dscp*** are mutually exclusive.	OPTIONAL
proto	The protocol (name or number) expected in the IP packet. Select one of the following protocols: ***icmp***, ***igmp***, ***ipinip***, ***tcp***, ***udp***, ***ah***, ***esp***, ***ipcomp*** or, alternatively, specify the protocol number.	OPTIONAL
srcport	The TCP/UDP port (or beginning of range) the packet is coming from. Select one of the supported TCP/UDP port names (see “ Supported TCP/UDP Port Names” on page 613) or, alternatively, specify the protocol number.	OPTIONAL
srcportend	The source TCP/UDP port range end (inclusive). Select one of the supported TCP/UDP port names (see “ Supported TCP/UDP Port Names” on page 613) or, alternatively, specify the protocol number.	OPTIONAL
dstport	The TCP/UDP port (or beginning of range) the packet is going to. Select one of the supported TCP/UDP port names (see “ Supported TCP/UDP Port Names” on page 613) or, alternatively, specify the protocol number.	OPTIONAL
dstportend	The destination TCP/UDP port range end (inclusive). Select one of the supported TCP/UDP port names (see “ Supported TCP/UDP Port Names” on page 613) or, alternatively, specify the protocol number.	OPTIONAL
icmptype	The ICMP type (name or number) of the packet. Select one of the supported ICMP types (see “ Supported ICMP Type Names” on page 616) or, alternatively, specify the type number.	OPTIONAL
icmpcode	A number between 0 and 15. Represents the ICMP code (or beginning of range) of the packet.	OPTIONAL
icmpcodeend	A number between 0 and 15. Represents the ICMP code range end (inclusive).	OPTIONAL

Firewall Commands

Introduction

This chapter describes the commands of the `firewall` command group.

Contents

This chapter covers the following commands:

firewall config

Configure the firewall options.

SYNTAX:

```
firewall config  [state = <{disabled | enabled}>]
                 [keep = <{disabled | enabled}>]
                 [tcpchecks = <{none | fast | exact}>]
                 [udpchecks = <{disabled|enabled}>]
                 [icmpchecks = <{disabled | enabled}>]
                 [logdefault = <{disabled | enabled}>]
                 [logthreshold = <{disabled | enabled}>]
                 [tcpwindow = <number{0-1073725440}>]
```

where:

state	Enable or disable the firewall. The default is ***enabled***.	OPTIONAL
keep	The firewall keeps active connections (enabled) or not (disabled) when the firewall rules change. The default is ***disabled***.	OPTIONAL
tcpchecks	Select the level of TCP sequence number checks. Choose between: - ***none***: no TCP checks are done. - ***fast***: check all the combinations of flag and disallow all the possible illegal combinations shown below: - SYN PSH (SYN PSH URG,...) - SYN FIN (SYN FIN PSH, SYN FIN RST PSH,...) - FIN flag set without ACK - All flags set - No flags set. - ***exact***: check and permit only combinations of flag with the TCP state of a connection: - SYN: request to open connection - SYN ACK: agree to open connection - A, PA, AU, PAU: acknowledgement of receipt - FA, FAP, FAU, FAP, FAPU, FAU, FPAU: request to close connection - R, RA, RP, RU, RPA, RPU, RAU, RPAU: tear down connection. The default is ***exact***.	OPTIONAL
udpchecks	Disable or enable keeping UDP checks. The default is ***enabled***.	OPTIONAL
icmpchecks	Disable or enable keeping ICMP checks. The default is ***enabled***.	OPTIONAL
logdefault	Disable or enable logging of default firewall rule. The default is ***disabled***.	OPTIONAL
logthreshold	Disable or enable log thresholding. The default is ***enabled***.	OPTIONAL
tcpwindow	A number between 0 and 1073725440. This parameter permits to modify the TCP window for fast TCP checks. The default is ***65536***.	OPTIONAL

EXAMPLE:

```
=>firewall config
:firewall config state=enabled keep=disabled tcpchecks=exact icmpchecks=enabled logdefault=disabled
logthreshold=enabled tcpwindow=65536
=>
```

firewall clear

Flush the firewall configuration.

SYNTAX:

```
firewall clear
```

firewall list

List the firewall configuration.

SYNTAX:

```
firewall list  [format = <{pretty | cli}>]
```

where:

format	Select the output format in which the configuration must be shown. Choose between: - ***pretty***: the configuration is shown as intuitive output in clear text. - ***cli***: the configuration is shown via the CLI commands configuration. The default is ***pretty***.	OPTIONAL

EXAMPLE of output in text mode:

```
=>firewall list

Config
======
State            : enabled
Keep             : disabled
TcpChecks        : exact
TcpWindow        : 65536
IcmpChecks       : enabled
LogDefault       : disabled
LogThreshold     : enabled

Modules
=======
Module           State    Text                                     Hooks
---------------------------------------------------------------------------------------------------
fire             enabled  Firewall Administration Module           sink, forward, source
host_service     enabled  Firewall Host Service Module             forward
level            enabled  Firewall Level Module                    forward
system_service   enabled  Firewall System Service Module           sink
=>
```

EXAMPLE of output in CLI mode:

```
=>firewall list format=cli
:firewall config state=enabled keep=disabled tcpchecks=exact icmpchecks=enabled logdefault=disabled
| logthreshold=enabled tcpwindow=65536
:firewall debug traceconfig tcpchecks=disabled icmpchecks=disabled sink=none forward=none
| source=none
=>
```

firewall chain add

Add a chain.

SYNTAX:

```
firewall chain add  chain = <string>
```

where:

chain	The name of the chain to be added.	REQUIRED

EXAMPLE:

```
=>firewall chain list

Chains
======
Name                                             Description
-----------------------------------------------------------------
sink                                             system
forward                                          system
source                                           system
sink_fire                                        system
forward_fire                                     system
source_fire                                      system
forward_host_service                             system
forward_level                                    system
sink_system_service                              system
forward_level_BlockAll                           system
forward_level_Standard                           system
forward_level_Disabled                           system
=>firewall chain add chain=myCHAIN
=>firewall chain list

Chains
======
Name                                             Description
-----------------------------------------------------------------
sink                                             system
forward                                          system
source                                           system
sink_fire                                        system
forward_fire                                     system
source_fire                                      system
forward_host_service                             system
forward_level                                    system
sink_system_service                              system
forward_level_BlockAll                           system
forward_level_Standard                           system
forward_level_Disabled                           system
myCHAIN                                          user
=>
```

RELATED COMMANDS:

firewall chain delete	Delete a chain.
firewall chain list	List all chains.

firewall chain delete

Delete a chain.

SYNTAX:

```
firewall chain delete  chain = <string>
```

where:

chain	The name of the chain to be deleted.	REQUIRED

EXAMPLE:

```
=>firewall chain list

Chains
======
Name                                             Description
-----------------------------------------------------------------
sink                                             system
forward                                          system
source                                           system
sink_fire                                        system
forward_fire                                     system
source_fire                                      system
forward_host_service                             system
forward_level                                    system
sink_system_service                              system
forward_level_BlockAll                           system
forward_level_Standard                           system
forward_level_Disabled                           system
myCHAIN                                          user
=>firewall chain delete chain=myCHAIN
=>firewall chain list

Chains
======
Name                                             Description
-----------------------------------------------------------------
sink                                             system
forward                                          system
source                                           system
sink_fire                                        system
forward_fire                                     system
source_fire                                      system
forward_host_service                             system
forward_level                                    system
sink_system_service                              system
forward_level_BlockAll                           system
forward_level_Standard                           system
forward_level_Disabled                           system
=>
```

RELATED COMMANDS:

firewall chain add	Add a chain.
firewall chain list	List all chains.

firewall chain flush

Flush all chains.

SYNTAX:

```
firewall chain flush
```

firewall chain list

List all chains.

SYNTAX:

```
firewall chain list     [format = <{pretty | cli}>]
```

where:

format	Select the output format in which the chains must be shown. Choose between: - ***pretty***: the chains are shown as intuitive output in clear text. - ***cli***: the chains are shown via the CLI commands configuration. The default is ***pretty***.	OPTIONAL

EXAMPLE:

```
=>firewall chain list

Chains
======
Name                                                Description
-------------------------------------------------------------------
sink                                                system
forward                                             system
source                                              system
sink_fire                                           system
forward_fire                                        system
source_fire                                         system
forward_host_service                                system
forward_level                                       system
sink_system_service                                 system
forward_level_BlockAll                              system
forward_level_Standard                              system
forward_level_Disabled                              system
=>
```

RELATED COMMANDS:

firewall chain add	Add a chain.
firewall chain delete	Delete a chain.

firewall debug clear

Clear the firewall statistics.

SYNTAX:

```
firewall debug clear
```

EXAMPLE:

```
=>firewall debug stats

Statistics
==========
Used rule contexts              : 0
Total rule contexts             : 256
Total packets parsed            : 2554
Packets parsed in hook sink     : 1461
Packets parsed in hook forward  : 12
Packets parsed in hook source   : 1041
Packets dropped in hook sink    : 0
Packets dropped in hook forward : 0
Packets dropped in hook source  : 0
TCP flag errors detected        : 14
TCP seq/ack/win errors detected : 5
ICMP errors with partial info   : 0
ICMP errors without cause       : 0
ICMP replies without request    : 0
Packet replay errors    : 0
=>firewall debug clear
=>firewall debug stats

Statistics
==========
Used rule contexts              : 0
Total rule contexts             : 256
Total packets parsed            : 26
Packets parsed in hook sink     : 16
Packets parsed in hook forward  : 0
Packets parsed in hook source   : 10
Packets dropped in hook sink    : 0
Packets dropped in hook forward : 0
Packets dropped in hook source  : 0
TCP flag errors detected        : 0
TCP seq/ack/win errors detected : 0
ICMP errors with partial info   : 0
ICMP errors without cause       : 0
ICMP replies without request    : 0
Packet replay errors    : 0
=>
```

RELATED COMMANDS:

firewall debug stats	Display the firewall statistics.

firewall debug stats

Display the firewall statistics.

SYNTAX:

```
firewall debug stats
```

EXAMPLE:

```
=>firewall debug stats

Statistics
==========
Used rule contexts              : 0
Total rule contexts             : 256
Total packets parsed            : 2554
Packets parsed in hook sink     : 1461
Packets parsed in hook forward  : 12
Packets parsed in hook source   : 1041
Packets dropped in hook sink    : 0
Packets dropped in hook forward : 0
Packets dropped in hook source  : 0
TCP flag errors detected        : 14
TCP seq/ack/win errors detected : 5
ICMP errors with partial info   : 0
ICMP errors without cause       : 0
ICMP replies without request    : 0
Packet replay errors    : 0

=>
```

RELATED COMMANDS:

firewall debug clear	Clear the firewall statistics.

firewall debug traceconfig

Configure the firewall trace options.

SYNTAX:

```
firewall debug traceconfig  [tcpchecks = <{disabled | enabled}>]
                            [udpchecks = <{disabled|enabled}>]
                            [icmpchecks = <{disabled | enabled}>]
                            [sink = <{none | all | accept | deny | drop
                                      | reset} or number>]
                            [forward = <{none | all | accept | deny | drop
                                          reset} or number>]
                            [source = <{none | all | accept | deny | drop
                                        | reset} or number>]
```

where:

tcpchecks	Disable or enable tcpchecks traces. The default is ***disabled***.	OPTIONAL
udpchecks	Disable or enable udpchecks traces. The default is ***disabled***.	OPTIONAL
icmpchecks	Disable or enable icmpchecks traces. The default is ***disabled***.	OPTIONAL
sink	Specify the action traced by the firewall for sink traffic. The default is ***none***.	OPTIONAL
forward	Specify the action traced by the firewall for forward traffic. The default is ***none***.	OPTIONAL
source	Specify the action traced by the firewall for source traffic. The default is ***none***.	OPTIONAL

EXAMPLE:

```
=>firewall debug traceconfig

Trace Config
============
tcpchecks        : disabled
icmpchecks       : disabled
sink             : none
forward          : none
source           : none
=>
```

firewall level add

Add a security level.

SYNTAX:

```
firewall level add  name = <string>
                    [index = <number>]
                    [readonly = <{disabled | enabled}>]
                    [udptrackmode = <{strict | loose}>]
                    [service = <{disabled | enabled}>]
                    [proxy = <{disabled|enabled}>]
                    [text = <quoted string>]
```

where:

name	The name of the security level to be added.	REQUIRED
index	The index of the security level. **Tip** Use the command `:firewall level list` to obtain a list of indexes. **Note** If not specified, the new security level will be added at the bottom of the list.	OPTIONAL
readonly	Select whether the security level is readonly (enabled) or not (disabled). The default is ***enabled***.	OPTIONAL
udptrackmode	Select the UDP connection tracking mode. Choose between: ▸ ***strict***: replies to a request from a client must be in a specific window to the client. ▸ ***loose***: inbound packets are allowed on the port that was first used to start the communication with the server (for example to allow a client of an online game to obtin peer-to-peer information from other clients of that same online game). The default is ***strict***.	OPTIONAL
proxy	Enable or disable proxy system services for this security level.	OPTIONAL
service	Disable or enable host service definitions. The default is ***disabled***.	OPTIONAL
text	Description of the security level. **Note** The maximum length is 39 characters.	OPTIONAL

RELATED COMMANDS:

firewall level delete	Delete a security level.
firewall level list	List all the security levels.

firewall level delete

Delete a security level.

SYNTAX:

```
firewall level delete  name = <string>
```

where:

name	The name of the security level to be deleted.	REQUIRED

RELATED COMMANDS:

firewall level add	Add a security level.
firewall level list	List all the security levels.

firewall level flush

Flush the security level configuration.

SYNTAX:

```
firewall level flush
```

firewall level list

List all the security levels.

SYNTAX:

```
firewall level list  [format = <{pretty | cli}>]
```

where:

format	Select the output format in which the security levels must be shown. Choose between: ▸ ***pretty***: the security levels are shown as intuitive output in clear text. ▸ ***cli***: the security levels are shown via the CLI commands configuration. The default is ***pretty***.	OPTIONAL

RELATED COMMANDS:

firewall level add	Add a security level.
firewall level delete	Delete a security level.

firewall level modify

Configure a security level.

SYNTAX:

```
firewall level modify  name = <string>
                       [index = <number>]
                       [readonly = <{disabled | enabled}>]
                       [udptrackmode = <{strict | loose}>]
                       [service = <{disabled | enabled}>]
                       [proxy = <{disabled|enabled}>]
                       [text = <quoted string>]
```

where:

name	The name of the security level to be added.	REQUIRED
index	The index of the security level. **Tip** Use the command `:firewall level list` to obtain a list of indexes.	OPTIONAL
readonly	Select whether the security level is readonly (enabled) or not (disabled).	OPTIONAL
udptrackmode	Select the UDP connection tracking mode. Choose between: ▸ ***strict***: replies to a request from a client must be in a specific window to the client. ▸ ***loose***: inbound packets are allowed on the port that was first used to start the communication with the server (for example to allow a client of an online game to obtin peer-to-peer information from other clients of that same online game). The default is ***strict***.	OPTIONAL
proxy	Enable or disable proxy system services for this security level.	OPTIONAL
service	Disable or enable service definitions for this security level.	OPTIONAL
text	Description of the security level. **Note** The maximum length is 39 characters.	OPTIONAL

firewall level set

Set the security level or display the current security level.

SYNTAX:

```
firewall level set   [name = <string>]
```

where:

name	The name of the security level to be set. **Note** If no security level is specified, the current security level will be shown.	OPTIONAL

firewall rule add

Add a firewall rule.

SYNTAX:

```
firewall rule add  chain = <chain name>
                   [index = <number>]
                   [name = <string>]
                   [clink = <chain name>]
                   [srcintf [!]= <{_loop|_Internet|_LocalNetwork|DHCP-
                   S_if_0|DHCP-
                   R_if_0|wan|local|lan|tunnel|dmz|guest|PPTPD_if_0|PPTPGRE_if
                   _O|HTTP_if_0|HTTPs_if_0|FTP_if_0|TELNET_if_0|DNS-
                   S_if_0|SSDP_if_0|SNMP_AGENT_if_O|MDAP_if_0|PING_RESPONDER_i
                   f_0|HTTPI_if_0}>]
                   [srcip [!]=
                   <{_10.0.0.138|_192.168.1.254|private|ssdp_ip|mdap_ip}>]
                   [dstintf [!]= <{_loop|_Internet|_LocalNetwork|DHCP-
                   S_if_0|DHCP-
                   R_if_0|wan|local|lan|tunnel|dmz|guest|PPTPD_if_0|PPTPGRE_if
                   _0|HTTP_if_0|HTTPS_if_0|FTP_if_0|TELNET_if_0|DNS-
                   S_if_0|SSDP_if_0|SNMP_AGENT_if_0|MDAP_if_0|PING_RESPONDER_i
                   f_0|HTTPI_if_0}>]
                   [dstip [!]=
                   <{_10.0.0.138|_192.168.1.254|private|ssdp_ip|mdap_ip}>]
                   [serv [!]= <{PPTPD_sv_0|PPTPGRE_sv_0|RIP_sv_0|RIP-
                   Query_sv_0|IGMP-Proxy_sv_0|DNS-S_sv_0|DHCP-R_sv_0|DHCP-
                   S_sv_0|SNMP_AGENT_sv_0|SSDP_sv_0|MDAP_sv_0|RTP_0_sv_0|RTCP_
                   0_sv_0|UDPTL_0_sv_0|RTP_1_sv_0|RTCP_1_sv_0|UDPTL_1_sv_0|RTP
                   _2_sv_0|RTCP_2_sv_0|UDPTL_2_sv_0|RTP_3_sv_0|RTCP_3_sv_0|UDP
                   TL_3_sv_0|ICMP_LISTEN_sv_0|SENDTO_LISTEN_sv_0|PING_RESPONDE
                   R_sv_0|HTTP_sv_0|RAS_sv_0|FTP_sv_0|TELNET_sv_0|CWMP_server_
                   sv_0|icmp|igmp|ftp|telnet|http|httpproxy|https|RPC}>]
                   [log = <{disabled | enabled}>]
                   [state = <{disabled | enabled}>]
                   action = <{accept|deny|drop|reset|count|link}>
```

If a value is preceded by a “!”, it means NOT.
For example “srcintf=!wan” means “if the source interface is different from WAN”.

where:

chain	The name of the chain which contains the rule.	REQUIRED
index	The number of the rule in the chain.	OPTIONAL
name	The name of the new rule.	OPTIONAL
clink	The name of the chain to be parsed when this rule applies.	OPTIONAL
srcintf	The name of the source interface expression.	OPTIONAL
srcip	The name of the source IP expression.	OPTIONAL
dstintf	The name of the destination interface expression.	OPTIONAL
dstip	The name of the destination IP expression.	OPTIONAL
serv	The name of the service expression.	OPTIONAL
log	Disable or enable logging is done when this rule applies.	OPTIONAL
state	Enable or disable this rule.	OPTIONAL
action	The action to be taken when this rule applies ('link' when clink is used).	REQUIRED

RELATED COMMANDS:

firewall rule delete	Delete a firewall rule.

firewall rule delete

Delete a firewall rule.

SYNTAX:

```
firewall rule delete   chain = <string>
                       index = <number>
```

where:

chain	The name of the chain in which a rule must be deleted.	REQUIRED
index	The number of the rule in the chain.	REQUIRED

RELATED COMMANDS:

firewall rule add	Add a firewall rule.

firewall rule flush

Flush all firewall rules.

SYNTAX:

```
firewall rule flush  [chain = <string>]
```

where:

chain	The name of the chain for which the rules must be flushed. **Note** If not specified, the rules of all the chains will be flushed.	OPTIONAL

firewall rule list

Show a list of the firewall rules in a chain.

SYNTAX:

```
firewall rule list   [chain = <string>]
                     [format = <{pretty | cli}>]
```

where:

chain	The name of the chain for which the rules must be listed. **Note** If not specified, the rules of all the chains are shown.	OPTIONAL
format	Select the output format in which the list must be shown. Choose between: ▸ ***pretty***: the list is shown as intuitive output in clear text. ▸ ***cli***: the list is shown via the CLI commands configuration. The default is ***pretty***.	OPTIONAL

EXAMPLE:

```
=>firewall rule list

Rules (flags: C=Constant, D=Dynamic, E=Enable, L=Log)
=====
Chain                   Nr.  Flags  Rule
---------------------------------------------------------------------------------------
sink                    1    CDE                    : link    sink_fire
                        2    CDE                    : link    sink_system_service
sink_fire               1    C E    SSDP            : accept  ssdp_serv lan.* > *.ssdp_ip
sink_system_service     1    CDE    HTTPI           : accept  HTTPI_sv_0 HTTPI_if_0.* > *.*
                        2     DE    PING_RESPONDER  : accept  PING_RESPONDER_sv_0 PING_RESPONDER_
                                                              if_0.* > *.*
                        3    CD     SENDTO_LISTEN   : accept  SENDTO_LISTEN_sv_0 *.* > *.*
                        4     D     ICMP_LISTEN     : accept  ICMP_LISTEN_sv_0 *.* > *.*
                        5    CD     SRAS            : accept  SRAS_sv_0 *.* > *.*
                        6    CD     RAS             : accept  RAS_sv_0 *.* > *.*
                        7    CDE    MDAP            : accept  MDAP_sv_0 *.* > *.*
                        8    CDE    SNMP_AGENT      : accept  SNMP_AGENT_sv_0 SNMP_AGENT_
                                                              if_0.* > *.*
                        9    CD     DHCP-S          : accept  DHCP-S_sv_0 *.* > *.*
                        10   CDE    DHCP-R          : accept  DHCP-R_sv_0 DHCP-R_if_0.* > *.*
                        11   CDE    DNS-S           : accept  DNS-S_sv_0 DNS-S_if_0.* > *.*
                        12   CD     RIP-Query       : accept  RIP-Query_sv_0 *.* > *.*
                        13   CDE    RIP             : accept  RIP_sv_0 *.* > *.*
                        14   CDE    TELNET          : accept  TELNET_sv_0 TELNET_if_0.* > *.*
                        15   CDE    FTP             : accept  FTP_sv_0 FTP_if_0.* > *.*
                        16   CDE    HTTPs           : accept  HTTPs_sv_0 HTTPs_if_0.* > *.*
                        17   CDE    HTTP            : accept  HTTP_sv_0 HTTP_if_0.* > *.*
forward                 1    CDE                    : link    forward_fire
                        2    CDE                    : link    forward_host_service
                        3    CDE                    : link    forward_level
forward_level           1    CDE                    : link    forward_level_Disabled
forward_level_Disabled  1    C E    AnyTraffic      : accept  *.* > *.*
source                  1    CDE                    : link    source_fire
source_fire             1    C E    AnyTraffic      : accept  *.* > *.*
=>
=>firewall rule list format=cli
:firewall rule add chain=sink_fire index=1 name=SSDP srcintf=lan dstip=ssdp_ip serv=ssdp_serv
| log=disabled state=enabled action=accept
:firewall rule add chain=source_fire index=1 name=AnyTraffic log=disabled state=enabled
| action=accept
:firewall rule add chain=forward_level_BlockAll index=1 name=AnyTraffic log=disabled state=enabled
| action=drop
:firewall rule add chain=forward_level_Standard index=1 name=FromLAN srcintf=lan log=disabled
| state=enabled action=accept
:firewall rule add chain=forward_level_Disabled index=1 name=AnyTraffic log=disabled state=enabled
| action=accept
=>
```

firewall rule modify

Modify a firewall rule.

SYNTAX:

```
firewall rule modify  chain = <string>
                      index = <number>
                      [newindex = <number>]
                      [name = <string>]
                      [clink = <chain name>]
                      [srcintf [!]= <string>]
                      [srcip [!]= <{_10.0.0.138 | _192.168.1.254| private
                                   | ssdp_ip | mdap_ip}>]
                      [dstintf [!]= <string>]
                      [dstip [!]= <{_10.0.0.138 | _192.168.1.254| private
                                   | ssdp_ip | mdap_ip}>]
                      [serv [!]= <service expressions>]
                      [log = <{disabled | enabled}>]
                      [state = <{disabled | enabled}>]
                      [action = <action>]
```

If a value is preceded by a “!”, it means NOT.
For example “srcintf=!wan” means “if the source interface is different from WAN”.

where:

chain	The name of the chain which contains the rule.	REQUIRED
index	The number of the rule in the chain.	REQUIRED
newindex	The number of the rule in the chain.	OPTIONAL
name	The name of the new rule.	OPTIONAL
clink	The name of the chain to be parsed when this rule applies.	OPTIONAL
srcintf	The name of the source interface expression.	OPTIONAL
srcip	The name of the source IP expression.	OPTIONAL
dstintf	The name of the destination interface expression.	OPTIONAL
dstip	The name of the destination IP expression.	OPTIONAL
serv	The name of the service expression.	OPTIONAL
log	Disable or enable logging when this rule applies.	OPTIONAL
state	Disable or enable this rule.	OPTIONAL
action	The action to be taken when this rule applies ('link' when clink is used).	OPTIONAL

firewall rule debug clear

Clear the firewall rule statistics.

SYNTAX:

```
firewall rule debug clear   [chain = <string>]
                            [index = <number>]
```

where:

chain	The name of the chain which contains the rule.	OPTIONAL
index	The number of the rule in the chain. **Note** If not specified, the statistics for all the rules in the chain will be cleared.	OPTIONAL

EXAMPLE:

```
=>firewall rule debug stats
chain                                            index    packets      bytes
----------------------------------------------------------------------------
sink                                                 1          0          0
                                                     2          4        192
forward                                              1          0          0
                                                     2          0          0
                                                     3         10        480
source                                               1          0          0
sink_fire                                            1          0          0
source_fire                                          1          0          0
forward_level                                        1         10        480
sink_system_service                                  1          1         48
                                                     2          0          0
                                                     ...
                                                    16          0          0
                                                    17          2         96
forward_level_BlockAll                               1          0          0
forward_level_Standard                               1          0          0
forward_level_Disabled                               1         10        480
=>firewall rule debug clear
=>firewall rule debug stats
chain                                            index    packets      bytes
----------------------------------------------------------------------------
sink                                                 1          0          0
                                                     2          0          0
forward                                              1          0          0
                                                     2          0          0
                                                     3          0          0
source                                               1          0          0
sink_fire                                            1          0          0
source_fire                                          1          0          0
forward_level                                        1          0          0
sink_system_service                                  1          0          0
                                                     2          0          0
                                                     ...
                                                    16          0          0
                                                    17          0          0
forward_level_BlockAll                               1          0          0
forward_level_Standard                               1          0          0
forward_level_Disabled                               1          0          0
=>
```

RELATED COMMANDS:

firewall rule debug stats	Show the firewall rule statistics.

firewall rule debug stats

Show the firewall rule statistics.

SYNTAX:

```
firewall rule debug stats   [chain = <chain name>]
                            [index = <number>]
```

where:

chain	The name of the chain for which the statistics must be shown. **Note** If not specified, the statistics for all the chains will be shown.	OPTIONAL
index	The number of the rule in the chain. **Note** If not specified, the statistics for all the rules in the chain are shown.	OPTIONAL

EXAMPLE:

```
=>firewall rule debug stats
chain                                            index    packets      bytes
----------------------------------------------------------------------------
sink                                                 1          0          0
                                                     2          4        192
forward                                              1          0          0
                                                     2          0          0
                                                     3         10        480
source                                               1          0          0
sink_fire                                            1          0          0
source_fire                                          1          0          0
forward_level                                        1         10        480
sink_system_service                                  1          1         48
                                                     2          0          0
                                                     3          0          0
                                                     4          0          0
                                                     5          0          0
                                                     6          0          0
                                                     7          0          0
                                                     8          0          0
                                                     9          0          0
                                                    10          0          0
                                                    11          0          0
                                                    12          0          0
                                                    13          0          0
                                                    14          1         48
                                                    15          0          0
                                                    16          0          0
                                                    17          2         96
forward_level_BlockAll                               1          0          0
forward_level_Standard                               1          0          0
forward_level_Disabled                               1         10        480
=>
```

RELATED COMMANDS:

firewall rule debug clear	Clear the firewall rule statistics.

firewall rule debug traceconfig

Display or modify the rule trace configuration.

SYNTAX:

```
firewall rule debug traceconfig  [trace = <{disabled | enabled}>]
```

where:

trace	Enable or disable rule traces. The default is ***disabled***.	OPTIONAL

EXAMPLE:

```
=>firewall rule debug traceconfig
:firewall rule debug traceconfig state=disabled
=>
```

Hostmgr Commands

Introduction

This chapter describes the commands of the **hostmgr** command group.

Contents

This chapter covers the following commands:

hostmgr add

Add host device info to the host manager.

SYNTAX:

```
hostmgr add  mac_addr = <hardware-address>
             [ip_addr = <ip-address>]
             [name = <string>]
             [type = <{generic_device|desktop_computer|laptop_computer|
                     set_top_box|pda|gaming_console|phone|mobile_phone|
                     printer|mass_storage_device}>]
             [ipintf = <string>]
             [ethintf = <string>]
             [physintf = <string>]
```

where:

mac_addr	The MAC address of the host to be added.	REQUIRED
ip_addr	The host IP address.	OPTIONAL
name	The host name.	OPTIONAL
type	The host type. Choose between: ▶ generic_device ▶ desktop_computer ▶ laptop_computer ▶ set_top_box ▶ pda ▶ gaming_console ▶ phone ▶ mobile_phone ▶ printer ▶ mass_storage_device The default is ***Generic Device***.	OPTIONAL
ipintf	The IP interface name.	OPTIONAL
ethintf	The Ethernet interface name.	OPTIONAL
physintf	The physical interface name.	OPTIONAL

EXAMPLE:

```
=>hostmgr list
MAC-address       IP-address      Flags   Type            Intf            Hw Intf    Hostname
-----------       ----------      -----   ----            ----            -------    --------
00:10:a4:ad:32:cf 192.168.1.64    C       Generic Device  LocalNetwork    ethif4     MyComputer

=>hostmgr add mac_addr=00:10:a4:33:56:53 name=Play type=Playstation
=>hostmgr list
MAC-address       IP-address      Flags   Type            Intf            Hw Intf    Hostname
-----------       ----------      -----   ----            ----            -------    --------
00:10:a4:33:56:53 0.0.0.0                 Playstation     ethif1          ethif1     Play
00:10:a4:ad:32:cf 192.168.1.64    C       Generic Device  LocalNetwork    ethif4     MyComputer

=>
```

RELATED COMMANDS:

hostmgr delete	Delete the host device info from the host manager.
hostmgr list	List all the host devices.

hostmgr clear

Remove all the hosts from the list.

SYNTAX:

```
hostmgr clear
```

EXAMPLE:

```
=>hostmgr list
MAC-address       IP-address      Flags   Type            Intf            Hw Intf    Hostname
-----------       ----------      -----   ----            ----            -------    --------
00:10:a4:33:56:53 0.0.0.0                 Playstation     ethif1          ethif1     Play
00:10:a4:ad:32:cf 192.168.1.64    C       Generic Device  LocalNetwork    ethif4     MyComputer

=>hostmgr clear
=>hostmgr list
No hosts found.

=>
```

RELATED COMMANDS:

hostmgr delete	Delete the host device info from the host manager.

hostmgr config

Configure the host manager parameters.

SYNTAX:

```
hostmgr config    [state = <{disabled | enabled}>]
                  [scantime = <number{10-600}>]
                  [autosave = <{disabled | enabled}>]
                  [trace = <{disabled | enabled}>]
```

where:

state	Enable or disable the host manager daemon. The default is ***enabled***.	OPTIONAL
scantime	A number between 10 an 600 (seconds). Represents the time between two scans. The default is ***30*** (seconds).	OPTIONAL
autosave	Enable or disable automatic saves to flash memory. The default is ***enabled***.	OPTIONAL
trace	Enable or disable the host manager traces. The default is ***disabled***.	OPTIONAL

EXAMPLE:

```
=>hostmgr config
  state    : enabled
  scantime : 30 sec.
  autosave : enabled
  trace    : disabled

=>
```

hostmgr delete

Delete the host device info from the host manager.

SYNTAX:

```
hostmgr delete    mac_addr = <hardware-address>
```

where:

mac_addr	The MAC address of the host to be removed.	REQUIRED

EXAMPLE:

```
=>hostmgr list
MAC-address       IP-address      Flags   Type            Intf            Hw Intf    Hostname
-----------       ----------      -----   ----            ----            -------    --------
00:10:a4:33:56:53 0.0.0.0                 Playstation     ethif1          ethif1     Play
00:10:a4:ad:32:cf 192.168.1.64    C       Generic Device  LocalNetwork    ethif4     MyComputer

=>hostmgr delete mac_addr=00:10:a4:fa:33:56
=>hostmgr list
MAC-address       IP-address      Flags   Type            Intf            Hw Intf    Hostname
-----------       ----------      -----   ----            ----            -------    --------
00:10:a4:ad:32:cf 192.168.1.64    C       Generic Device  LocalNetwork    ethif4     MyComputer

=>
```

RELATED COMMANDS:

hostmgr add	Add host device info to the host manager.
hostmgr clear	Remove all the hosts from the list.
hostmgr list	List all the host devices.

hostmgr flush

Flush the host manager configuration.

The host manager configuration is cleaned and returned to default values.

SYNTAX:

```
hostmgr flush
```

hostmgr list

List all the host devices.

SYNTAX:

```
hostmgr list
```

EXAMPLE:

```
=>hostmgr list
MAC-address       IP-address      Flags   Type            Intf            Hw Intf    Hostname
-----------       ----------      -----   ----            ----            -------    --------
00:10:a4:33:56:53 0.0.0.0                 Playstation     ethif1          ethif1     Play
00:10:a4:ad:32:cf 192.168.1.64    C       Generic Device  LocalNetwork    ethif4     MyComputer

=>
```

RELATED COMMANDS:

hostmgr add	Add host device info to the host manager.
hostmgr delete	Delete the host device info from the host manager.

IGMP Commands

Introduction

This chapter describes the commands of the **`IGMP`** command group.

Contents

This chapter covers the following commands:

igmp host config

Display or modify global IGMP configuration.

SYNTAX:

```
igmp host config    [requirera = <{disabled | enabled}>]
```

where:

requirera	Enable or disable the router alert IP option check. The default is ***disabled***.	OPTIONAL

EXAMPLE:

```
=>igmp host confighostmgr list
Router alert IP option check : disabled
=>
```

RELATED COMMANDS:

igmp host debug clear	Show the IGMP groups.

igmp host flush

Flush the IGMP settings.

SYNTAX:

`igmp host flush`	

igmp host list

Show the IGMP groups.

SYNTAX:

```
igmp host list    [intf = <string>]
                  [expand = <{disabled | enabled}>]
```

where:

intf	The IP interface name.	OPTIONAL
expand	Enable or disable expanded listing of IGMP groups. The default is ***disabled***.	OPTIONAL

EXAMPLE:

```
=>igmp host list
Interface                  Group              Filter-Mode  Source
4    lan1                  224.0.0.103        EXCLUDE      none
4    lan1                  239.255.255.250    EXCLUDE      none
=>
```

igmp host ifconfig

Configure an IGMP interface.

SYNTAX:

```
igmp host ifconfig   intf = <string>
                     version = <{none |IGMPv1 |IGMPv2 |IGMPv3}>
```

where:

intf	The IP interface name.	REQUIRED
version	The IGMP version of the IP interface. Choose between: ▸ ***IGMPv1*** ▸ ***IGMPv2*** ▸ ***IGMPv3*** ▸ ***none***	REQUIRED

EXAMPLE:

```
=>igmp host ifconfig
intf = lan1
version = IGMPv1
:igmp host ifconfig intf=lan1 version=IGMPv1
=>
```

RELATED COMMANDS:

igmp proxy iflist	Show the configuration of the IGMP interfaces.

igmp host iflist

Show the configuration of the IGMP interfaces.

SYNTAX:

```
igmp host iflist   [expand = <{disabled | enabled}>]
```

where:

expand	Enable or disable expanded listing of IGMP interfaces configuration. The default is ***disabled***.	OPTIONAL

EXAMPLE:

```
=>igmp host iflist
Interface                   Version
0   loop                    IGMPv3
1   Internet                IGMPv3
2   ISDN_backup             IGMPv3
3   ISDN_backup_trigger     IGMPv3
4   lan1                    IGMPv3
5   wan1                    IGMPv3
6   dmz1                    IGMPv3
7   guest1                  IGMPv3
=>
```

RELATED COMMANDS:

igmp proxy ifconfig	Configure an IGMP interface.

igmp host debug clear

Clear IGMP statistics.

SYNTAX:

igmp host debug clear	

RELATED COMMANDS:

igmp host debug stats	Print IGMP statistics.

igmp host debug stats

Print IGMP statistics.

SYNTAX:

```
igmp host debug stats
```

EXAMPLE:

```
=>igmp host debug stats
Total IGMP messages received                            : 0
Too small IGMP messages received                        : 0
Too long IGMP messages received                         : 0
IGMP messages with bad checksum received                : 0
IGMP messages with bad TTL received                     : 0
IGMP messages with no router alert IP option received   : 0
IGMPv1 membership queries received                      : 0
IGMPv2 membership queries received                      : 0
IGMPv3 membership queries received                      : 0
IGMP bad queries received                               : 0
IGMP failing membership queries                         : 0
IGMPv1/v2 membership reports received                   : 0
IGMPv1/v2 invalid membership reports received           : 0
IGMPv1/v2 membership reports received for our groups    : 0
IGMPv1/v2 membership reports transmitted                : 0
IGMPv3 membership reports transmitted                   : 0
=>
```

RELATED COMMANDS:

igmp host debug clear	Clear IGMP statistics.

igmp proxy config

Configure the IGMP proxy.

SYNTAX:

`igmp proxy config`	`[state = <{disabled | enabled}>]`
	`[qi = <number{1-86400}>]`
	`[qri = <number{1-86400}>]`
	`[lmqi = <number{1-86400}>]`
	`[rv = <number{2-10}>]`
	`[requirera = <{disabled | enabled}>]`
	`[localgroup = <{disabled | enabled}>]`

where:

state	Enable or disable the IGMP proxy. The default is ***disabled***.	OPTIONAL
qi	A number between 1 and 86400. Represents the interval in seconds between general queries sent by the querier.	OPTIONAL
qri	A number between 1 and 86400. Represents the maximum response time in seconds for an IGMP client in reply to general queries.	OPTIONAL
lmqi	A number between 1 and 86400. Represents the maximum response time in seconds for an IGMP client in reply to group specific queries.	OPTIONAL
rv	A number between 2 and 10. Represents the robustness variable, which allows tuning for expected IGMP packet loss.	OPTIONAL
requirera	Enable or disable the router alert IP option check. The default is ***disabled***.	OPTIONAL
localgroup	Enable or disable the processing of a local multicast group in an IGMP packet. The default is ***disabled***.	OPTIONAL

EXAMPLE:

```
=>igmp proxy config
IGMP proxy state                    : disabled
Query Interval                      : 0 days, 0:02:05
Query Response Interval             : 0 days, 0:00:10
Last Member Query Interval          : 0 days, 0:00:01
Robustness variable                 : 2
Router alert IP option check        : disabled
Process local multicast group       : disabled
=>
```

RELATED COMMANDS:

igmp proxy grouplist	Show the learned groups on an IGMP proxy interface.

igmp proxy flush

Flush all IGMP proxy settings and learned groups.

SYNTAX:

`igmp proxy flush`	

igmp proxy grouplist

Show the learned groups on an IGMP proxy interface.

SYNTAX:

`igmp proxy grouplist`	`[intf = <string>]`
	`[expand = <{disabled | enabled}>]`

where:

intf	The name of the IGMP proxy interface to be listed.	OPTIONAL
expand	Enable or disable expanded listing of the learned groups on an IGMP proxy interface. The default is ***disabled***.	OPTIONAL

RELATED COMMANDS:

igmp proxy config	Configure the IGMP proxy.

igmp proxy ifconfig

Configure an IGMP proxy interface.

SYNTAX:

```
igmp proxy ifconfig   intf = <string>
                      [state = <{inactive | downstream | upstream}>]
                      [version = <{IGMPv1 | IGMPv2 | IGMPv3}>]
                      [fastleave = <{disabled | enabled}>]
```

where:

intf	The name of the IGMP proxy interface to be configured.	REQUIRED
state	The state of the IGMP proxy interface. Choose between: ▸ ***inactive*** ▸ ***downstream*** ▸ ***upstream***	OPTIONAL
version	The IGMP version of the IGMP proxy interface. Choose between: ▸ ***IGMPv1*** ▸ ***IGMPv2*** ▸ ***IGMPv3*** ▸ ***none***	OPTIONAL
fastleave	Enable or disable the immediate deletion of a group when a leave is received. The default is ***disabled***.	OPTIONAL

EXAMPLE:

```
=>igmp proxy ifconfig
intf = lan1
[state] = downstream
[version] = IGMPv3
[fastleave] = disabled
=>
```

RELATED COMMANDS:

igmp proxy iflist	Show the configuration of an IGMP proxy interface.

igmp proxy iflist

Show the configuration of an IGMP proxy interface.

SYNTAX:

`igmp proxy iflist`	`[expand = <{disabled | enabled}>]`

where:

expand	Enable or disable expanded listing of IGMP proxy interface configuration. The default is ***disabled***.	OPTIONAL

EXAMPLE:

```
=>igmp proxy iflist
Interface                   State         Version   Querier
7   guest1                  inactive         -         -
6   dmz1                    inactive         -         -
5   wan1                    inactive         -         -
4   lan1                    downstream       -         -
3   ISDN_backup_trigger     inactive         -         -
2   ISDN_backup             inactive         -         -
1   Internet                inactive         -         -
=>
```

RELATED COMMANDS:

igmp proxy ifconfig	Configure an IGMP proxy interface.

igmp proxy mbslist

Show the IGMP proxy membership database (merge of all learned groups.

SYNTAX:

`igmp proxy mbslist`	

igmp proxy debug clear

Clear IGMP proxy statistics.

SYNTAX:

`igmp proxy debug clear`	

RELATED COMMANDS:

igmp proxy debug stats	Print IGMP proxy statistics.
igmp proxy debug traceconfig	Modify IGMP proxy trace configuration.

igmp proxy debug stats

Print IGMP proxy statistics.

SYNTAX:

igmp proxy debug stats	

EXAMPLE:

```
=>igmp proxy debug stats
IGMP proxy statistics:
       Total IGMP packets recv                            : 0
       Too short IGMP packets recv                        : 0
       IGMP packets with bad checksum recv                : 0
       IGMP packets with bad ttl recv                     : 0
       IGMP packets with no route alert option recv       : 0
       IGMPv1 queries recv                                : 0
       IGMPv2 queries recv                                : 0
       IGMPv3 queries recv                                : 0
       IGMP bad queries recv                              : 0
       IGMP  queries fail                                 : 0
       IGMPv1 reports recv                                : 0
       IGMPv2 reports recv                                : 0
       IGMPv3 reports recv                                : 0
       IGMP bad reports recv                              : 0
       IGMP leave reports recv                            : 0
       IGMP bad leave reports recv                        : 0
       IGMPv1 queries sent                                : 0
       IGMPv2 queries sent                                : 0
       IGMPv3 queries sent                                : 0
       IGMP query election switch                         : 0
=>
```

RELATED COMMANDS:

igmp proxy debug clear	Clear IGMP proxy statistics.
igmp proxy debug traceconfig	Modify IGMP proxy trace configuration.

igmp proxy debug traceconfig

Modify IGMP proxy trace configuration.

SYNTAX:

`igmp proxy debug traceconfig`	`[state = <{disabled	enabled}>]`

where:

state	Enable or disable tracing. The default is ***disabled***.	OPTIONAL

RELATED COMMANDS:

igmp proxy debug clear	Clear IGMP proxy statistics.
igmp proxy debug stats	Print IGMP proxy statistics.

Interface Commands

Introduction

This chapter describes the commands of the `interface` command group.

Contents

This chapter covers the following commands:

interface list

Display interfaces.

SYNTAX:

```
interface list   [expand = <{disabled | enabled}>]
                 [reverse = <{disabled | enabled}>]
```

where:

expand	Enable or disable expanded listing of interfaces. The default is ***disabled***.	OPTIONAL
reverse	Enable or disable reverse listing (lower layer first instead of upper layer first). The default is ***disabled***.	OPTIONAL

EXAMPLE:

```
=>interface list
Name         Type       State            Use  UL Interfaces
ethif1       physical   connected        1    bridge
ethif4       physical   connected        1    bridge
usbif1       physical   connected        1    bridge
RELAY        eth        connected        1    Internet_ppp
bridge       eth        connected        1    eth0
atm_0_35     atm        connected        1    ethoa_0_35
atm_8_35     atm        connected        1    ethoa_8_35
ethoa_0_35   eth        connected        0
ethoa_8_35   eth        connected        0
Internet_ppp ppp        not-connected    1    Internet
Internet     ip         not-connected    0
eth0         ip         connected        0
=>
=>interface list expand=enabled
Name         Type       State            Use  UL Interfaces
ethif1       physical   connected        1    bridge
             Flags....: INTERNAL
             Phys.....: intf: 0 type eth speed: 100 Mbps
ethif4       physical   connected        1    bridge
             Flags....: INTERNAL
             Phys.....: intf: 3 type eth speed: 100 Mbps
usbif1       physical   connected        1    bridge
             Flags....: INTERNAL
             Phys.....: intf: 4 type usb speed: 12 Mbps
RELAY        eth        connected        1    Internet_ppp
             Flags....: INTERNAL DYNAMIC RELAY
             Eth......: port: 65535 ip_cid: 200 arp_cid: 0
bridge       eth        connected        1    eth0
             Flags....: DYNAMIC
             Eth......: port: 0 ip_cid: 16385 arp_cid: 16386
atm_0_35     atm        connected        1    ethoa_0_35
             Flags....:
             Atm......: cid: 8196 atm_cid: 8196 llc_cid: 0 ppp_cid: 0
atm_8_35     atm        connected        1    ethoa_8_35
             Flags....:
             Atm......: cid: 8198 atm_cid: 8198 llc_cid: 0 ppp_cid: 0
ethoa_0_35   eth        connected        0
             Flags....:
             Eth......: port: 1 ip_cid: 16387 arp_cid: 16388
ethoa_8_35   eth        connected        0
             Flags....:
             Eth......: port: 2 ip_cid: 16389 arp_cid: 16390
Internet_ppp ppp        not-connected    1    Internet
             Flags....:
             Ppp......: cid: 0 ip_cid: 0
Internet     ip         not-connected    0
             Flags....: DYNAMIC
             Ip.......: dest: Internet_ppp
eth0         ip         connected        0
             Flags....:
             Ip.......: dest: bridge
=>
```

IP Commands

Introduction

This chapter describes the commands of the `ip` command group.

Contents

This chapter covers the following commands:

ip arpadd

Add an entry to the ARP cache of a broadcast Internet Protocol (IP) interface.

SYNTAX:

```
ip arpadd  intf = <string>
           ip = <ip-range>
           [hwaddr = <hardware-address>]
```

where:

intf	The IP interface name.	REQUIRED
ip	The IP address (or range) of the entry to be added to the Address Resolution Protocol (ARP) cache.	REQUIRED
hwaddr	The hardware address (for example the Ethernet MAC address) of the entry to be added.	OPTIONAL

EXAMPLE:

```
=>ip arplist
Interface        IP-address             HW-address        Type
2   eth0         10.0.0.1               00:10:a4:ad:32:cf STATIC
=>ip arpadd intf=eth0 ip=10.0.0.2
=>ip arplist
Interface        IP-address             HW-address        Type
2   eth0         10.0.0.1               00:10:a4:ad:32:cf STATIC
2   eth0         10.0.0.2               00:00:00:00:00:00 DYNAMIC
=>ip arpadd intf=eth0 ip=10.0.0.3 hwaddr=00:a0:24:ae:66:e1
=>ip arplist
Interface        IP-address             HW-address        Type
2   eth0         10.0.0.1               00:10:a4:ad:32:cf STATIC
2   eth0         10.0.0.2               00:00:00:00:00:00 DYNAMIC
2   eth0         10.0.0.3               00:a0:24:ae:66:e1 STATIC
=>
```

RELATED COMMANDS:

ip arpdelete	Delete an entry from the ARP cache.
ip arplist	Display the ARP cache.

ip arpdelete

Delete an entry from the ARP cache.

SYNTAX:

```
ip arpdelete   intf = <string>
               ip = <ip-range>
               [hwaddr = <hardware-address>]
```

where:

intf	The IP interface name.	REQUIRED
ip	The IP address (or range) of the entry to be deleted.	REQUIRED
hwaddr	The hardware address (for example the Ethernet MAC address) of the entry to be deleted.	OPTIONAL

EXAMPLE:

```
=>ip arplist
Interface        IP-address              HW-address        Type
2   eth0         10.0.0.1                00:10:a4:ad:32:cf STATIC
2   eth0         10.0.0.2                00:00:00:00:00:00 DYNAMIC
2   eth0         10.0.0.3                00:a0:24:ae:66:e1 STATIC
=>ip arpdelete intf=eth0 ip=10.0.0.3 hwaddr=00:a0:24:ae:66:e1
=>ip arplist
Interface        IP-address              HW-address        Type
2   eth0         10.0.0.1                00:10:a4:ad:32:cf STATIC
2   eth0         10.0.0.2                00:00:00:00:00:00 DYNAMIC
=>
```

RELATED COMMANDS:

ip arpadd	Add an entry to the ARP cache of a broadcast Internet Protocol (IP) interface.
ip arplist	Display the ARP cache.

ip arplist

Display the ARP cache.

SYNTAX:

```
ip arplist
```

EXAMPLE:

```
=>ip arplist
Interface        IP-address             HW-address        Type
2   eth0         10.0.0.1               00:10:a4:ad:32:cf STATIC
2   eth0         10.0.0.2               00:00:00:00:00:00 DYNAMIC
2   eth0         10.0.0.3               00:a0:24:ae:66:e1 STATIC
=>
```

RELATED COMMANDS:

ip arpadd	Add an entry to the ARP cache of a broadcast Internet Protocol (IP) interface.
ip arpdelete	Delete an entry from the ARP cache.

ip config

Show/set global IP stack configuration options.

SYNTAX:

```
ip config   [forwarding = <{disabled | enabled}>]
            [redirects = <{disabled | enabled}>]
            [sourcerouting = <{disabled | enabled}>]
            [netbroadcasts = <{disabled | enabled}>]
            [ttl = <number{0-255}>]
            [fraglimit = <number{1-1024}>]
            [defragmode = <{disabled | enabled}>]
            [addrcheck = <{off | own | static | dynamic}>]
            [mssclamping = <{disabled | enabled}>]
```

where:

forwarding	Disable or enable the IP routing functionality. The default is ***enabled***.	OPTIONAL
redirects	Disable or enable the sending of ICMP redirect messages. A router can send a redirect message in case a shorter path than the path followed is discovered. The default is ***enabled*** (for security reasons).	OPTIONAL
sourcerouting	Disable or enable IP source routed packets. IP source routed packets are packets with the route to follow specified in the header. The default is ***disabled*** (for security reasons).	OPTIONAL
netbroadcasts	Disable or enable net directed broadcasts. The default is ***disabled***. In case netbroadcasts are allowed, no traces of netbroadcasts are generated.	OPTIONAL
ttl	A number between 0 and 255. Represents the default Time To Live (TTL) for locally generated IP packets. This parameter determines the number of hop counts the IP packet may pass before it is dropped. By limiting the TTL, continuous circulation of IP packets on the network without ever reaching a destination is avoided. The default is ***64***.	OPTIONAL
fraglimit	A number between 1 and 1024. Represents the maximum number of IP packet fragments waiting for completion. By limiting the fragmentation limit, the depletion of the buffer is avoided. The default is ***64***.	OPTIONAL
defragmode	Disallow (disabled) or allow (enabled) defragmenting IP fragments. The default is ***enabled***.	OPTIONAL

addrcheck	Set the level of IP address checks. Choose between: ▸ ***off***: No address checking is performed. For advanced users only; in normal circumstances there should always be some kind of address checking. ▸ ***own***: Minimum level of checking. Only the address configuration on the SpeedTouch™ is checked. ▸ ***static***: Checking of the address configuration of the SpeedTouch™ and also of traffic: addresses of incoming packets; this checking is related to constants (for example an address may not be entirely composed of one's or zero's). ▸ ***dynamic***: Besides the address configuration of the SpeedTouch™ itself, and besides the checking of traffic on a constants level, additional checking is performed on the IP addresses that are determined by the configuration, more specifically by the network. The default is ***dynamic***.	OPTIONAL
mssclamping	Disable or enable mss clamping for low MTU interfaces. Enabling mss clamping assures that the size of a TCP packet never exceeds the available Maximum Transmission Unit (MTU) of the outgoing interface. The default is ***on***. **Note** It is recommended not to disable this parameter.	OPTIONAL

EXAMPLE:

```
=>ip config
Forwarding enabled
Sendredirects enabled
Sourcerouting disabled
NetBroadcasts disabled
Default TTL 64
Fraglimit 64 fragments
Fragcount currently  0 fragments
Defragment mode : enabled
Address checks : dynamic
Mss clamping : enabled
=>
```

ip flush

Flush all the static IP parameters.

Dynamic configurations (for example from PPP or CIP links) remain.

The flush command does not impact previously saved configurations.

The command `:ip flush` deletes all local IP connectivity.
Do not use this command during an IP based local connection, for example a Telnet CLI session, or web based CLI access.

SYNTAX:

```
ip flush
```

ip ifadd

Create an IP interface.

SYNTAX:

```
ip ifadd  intf = <string>
          dest = <string>
```

where:

intf	The name of the IP interface to be created.	REQUIRED
dest	An network interface name.	REQUIRED

EXAMPLE:

```
=>ip iflist
Interface           Group  MTU   RX       TX       TX-Drop  Status HW-address
0   loop            local  65535 122062   72987    0        [UP]   00:0e:50:0f:fc:2c
1   Internet        wan    1500  0        0        0        DOWN
2   RtPPPoE_ppp     wan    1500  0        0        0        DOWN
3   LocalNetwork    lan    1500  84105    123358   0        [UP]   00:0e:50:0f:fc:2c
=>ip ifadd intf=myIPintf dest=RtPPPoE_eth
=>ip iflist
Interface           Group  MTU   RX       TX       TX-Drop  Status HW-address
0   loop            local  65535 123966   75177    0        [UP]   00:0e:50:0f:fc:2c
1   Internet        wan    1500  0        0        0        DOWN
2   RtPPPoE_ppp     wan    1500  0        0        0        DOWN
3   LocalNetwork    lan    1500  86589    125262   0        [UP]   00:0e:50:0f:fc:2c
4   myIPintf        wan    1500  0        0        0        DOWN   00:0e:50:0f:fc:2c
=>
```

RELATED COMMANDS:

ip ifdelete	Delete an IP interface.
ip iflist	Display all the IP interfaces.
ip ifwait	Wait for a status change of an IP interface.

ip ifattach

Attach an IP interface.

SYNTAX:

```
ip ifattach   intf = <string>
```

where:

intf	The name of the IP interface to be attached.	REQUIRED

EXAMPLE:

```
=>ip iflist
Interface           Group  MTU   RX       TX       TX-Drop  Status HW-address
0   loop            local  65535 123966   75177    0        [UP]   00:0e:50:0f:fc:2c
1   Internet        wan    1500  0        0        0        DOWN
2   RtPPPoE_ppp     wan    1500  0        0        0        DOWN
3   LocalNetwork    lan    1500  86589    125262   0        [UP]   00:0e:50:0f:fc:2c
4   myIPintf        wan    1500  0        0        0        DOWN   00:0e:50:0f:fc:2c
=>ip ifattach intf=myIPintf
=>ip iflist
Interface           Group  MTU   RX       TX       TX-Drop  Status HW-address
0   loop            local  65535 123966   75177    0        [UP]   00:0e:50:0f:fc:2c
1   Internet        wan    1500  0        0        0        DOWN
2   RtPPPoE_ppp     wan    1500  0        0        0        DOWN
3   LocalNetwork    lan    1500  86589    125262   0        [UP]   00:0e:50:0f:fc:2c
4   myIPintf        wan    1500  0        0        0        [UP]   00:0e:50:0f:fc:2c
=>
```

RELATED COMMANDS:

ip ifdetach	Detach an IP interface.

ip ifconfig

Configure the parameters of an IP interface.

SYNTAX:

```
ip ifconfig  intf = <string>
             [mtu = <number{68-65535}>]
             [status = <{down | up}>]
             [hwaddr = <hardware-address>]
             [group = <string> or number]
             [linksensing = <{disabled | enabled}>]
             [primary = <{disabled | enabled}>]
             [mcastmode = <{default | disabled | enabled}>]
```

where:

intf	The name of the IP interface to be configured.	REQUIRED
mtu	A number between 68 and 65535. Represents the MTU (the maximum packet size (including IP header)) to be used on this interface. **Note** The default value depends on the connection and packet service for which the interface was created.	OPTIONAL
status	The administrative state of the interface. Choose between: ▸ ***down*** ▸ ***up***.	OPTIONAL
hwaddr	The hardware address (for example the Ethernet MAC address) of this IP interface.	OPTIONAL
group	The group to which this interface belongs. Can be used for firewalling, for example.	OPTIONAL
linksensing	The IP interface's awareness of link state transitions. The default is ***disabled***.	OPTIONAL
primary	Make the IP interface the primary interface (enabled) or not (disabled). The default is ***enabled***.	OPTIONAL
mcastmode	The multicast mode of the IP interface. Choose between: ▸ ***default*** ▸ ***disabled*** ▸ ***enabled***. The standard is ***default***.	OPTIONAL

EXAMPLE:

```
=>ip iflist
Interface           Group  MTU   RX       TX       TX-Drop  Status HW-address
0   loop            local  65535 123966   75177    0        [UP]   00:0e:50:0f:fc:2c
1   Internet        wan    1500  0        0        0        DOWN
2   RtPPPoE_ppp     wan    1500  0        0        0        DOWN
3   LocalNetwork    lan    1500  86589    125262   0        [UP]   00:0e:50:0f:fc:2c
4   myIPintf        wan    1500  0        0        0        DOWN   00:0e:50:0f:fc:2c
=>ip ifconfig
intf = myIPintf
[mtu] = 1500
[status] = up
[hwaddr] = 00:0e:50:0f:fc:2c
[group] = wan
[linksensing] = enabled
[primary] = enabled
:ip ifconfig intf=myIPintf
=>ip iflist
Interface           Group  MTU   RX       TX       TX-Drop  Status HW-address
0   loop            local  65535 123966   75177    0        [UP]   00:0e:50:0f:fc:2c
1   Internet        wan    1500  0        0        0        DOWN
2   RtPPPoE_ppp     wan    1500  0        0        0        DOWN
3   LocalNetwork    lan    1500  86589    125262   0        [UP]   00:0e:50:0f:fc:2c
4   myIPintf        wan    1500  0        0        0        [UP]   00:0e:50:0f:fc:2c
=>
```

If the STATUS is shown between square brackets, then ***linksensing*** is disabled for that particular interface.

ip ifdelete

Delete an IP interface.

SYNTAX:

```
ip ifdelete  intf = <string>
```

where:

intf	The name of the IP interface to be deleted.	REQUIRED

EXAMPLE:

```
=>ip iflist
Interface            Group  MTU   RX       TX       TX-Drop  Status HW-address
0   loop             local  65535 123966   75177    0        [UP]   00:0e:50:0f:fc:2c
1   Internet         wan    1500  0        0        0        DOWN
2   RtPPPoE_ppp      wan    1500  0        0        0        DOWN
3   LocalNetwork     lan    1500  86589    125262   0        [UP]   00:0e:50:0f:fc:2c
4   myIPintf         wan    1500  0        0        0        [UP]   00:0e:50:0f:fc:2c
=>ip ifdelete intf=myIPintf
=>ip iflist
Interface            Group  MTU   RX       TX       TX-Drop  Status HW-address
0   loop             local  65535 123966   75177    0        [UP]   00:0e:50:0f:fc:2c
1   Internet         wan    1500  0        0        0        DOWN
2   RtPPPoE_ppp      wan    1500  0        0        0        DOWN
3   LocalNetwork     lan    1500  86589    125262   0        [UP]   00:0e:50:0f:fc:2c
=>
```

RELATED COMMANDS:

ip ifadd	Create an IP interface.
ip iflist	Display all the IP interfaces.
ip ifwait	Wait for a status change of an IP interface.

ip ifdetach

Detach an IP interface.

SYNTAX:

```
ip ifdetach  intf = <string>
```

where:

intf	The name of the IP interface to be detached.	REQUIRED

EXAMPLE:

```
=>ip iflist expand=enabled
Interface           Group  MTU   RX       TX       TX-Drop  Status HW-address
0   loop            local  65535 130597   82240    0        [UP]   00:0e:50:0f:fc:2c
    BRHW-address  : ff:ff:ff:ff:ff:ff
    RX unicastpkts: 1304    brcastpkts : 0
    TX unicastpkts: 1994    brcastpkts : 0       droppkts:0
    Oper state    : UP      Admin State: UP
    Flags         : ARP BROADCAST ARPTABLE LOOP MULTICAST INTERNAL

...

4   myIPintf        wan    1500  0        0        0        DOWN   00:0e:50:0f:fc:2c
    BRHW-address  : ff:ff:ff:ff:ff:ff
    RX unicastpkts: 0       brcastpkts : 0
    TX unicastpkts: 0       brcastpkts : 0       droppkts:0
    Oper state    : DOWN    Admin State: UP
    Flags         : PRIMARY ARP BROADCAST BOUND ARPTABLE MULTICAST LINKSENSING STATIC
=>ip ifdetach intf=myIPintf
=>ip iflist expand=enabled
Interface           Group  MTU   RX       TX       TX-Drop  Status HW-address
0   loop            local  65535 133683   83949    0        [UP]   00:0e:50:0f:fc:2c
    BRHW-address  : ff:ff:ff:ff:ff:ff
    RX unicastpkts: 1332    brcastpkts : 0
    TX unicastpkts: 2036    brcastpkts : 0       droppkts:0
    Oper state    : UP      Admin State: UP
    Flags         : ARP BROADCAST ARPTABLE LOOP MULTICAST INTERNAL

...

4   myIPintf        wan    1500  0        0        0        DOWN   00:0e:50:0f:fc:2c
    BRHW-address  : ff:ff:ff:ff:ff:ff
    RX unicastpkts: 0       brcastpkts : 0
    TX unicastpkts: 0       brcastpkts : 0       droppkts:0
    Oper state    : DOWN    Admin State: DOWN
    Flags         : PRIMARY ARP BROADCAST ARPTABLE MULTICAST LINKSENSING STATIC
=>
```

RELATED COMMANDS:

ip ifattach	Attach an IP interface.

ip iflist

Display all the IP interfaces.

SYNTAX:

```
ip iflist  [expand = <{disabled | enabled}>]
```

where:

expand	Enable or disable expanded listing. The default is ***disabled***.	OPTIONAL

EXAMPLE:

```
=>ip iflist
Interface           Group  MTU   RX       TX       TX-Drop  Status HW-address
0   loop            local  65535 123966   75177    0        [UP]   00:0e:50:0f:fc:2c
1   Internet        wan    1500  0        0        0        DOWN
2   RtPPPoE_ppp     wan    1500  0        0        0        DOWN
3   LocalNetwork    lan    1500  86589    125262   0        [UP]   00:0e:50:0f:fc:2c
4   myIPintf        wan    1500  0        0        0        [UP]   00:0e:50:0f:fc:2c
=>
```

RELATED COMMANDS:

ip ifadd	Create an IP interface.
ip ifdelete	Delete an IP interface.
ip ifwait	Wait for a status change of an IP interface.

ip ifwait

Wait for a status change of an IP interface.

SYNTAX:

```
ip ifwait  intf = <string>
           [timeout = <number{1-600000}>]
           [adminstatus = <{down | up}>]
           [operstatus = <{down | up}>]
           [linkstatus = <{down | up}>]
```

where:

intf	The IP interface name.	REQUIRED
timeout	A number between 1 and 600000 (seconds). Represents the timeout.	OPTIONAL
adminstatus	The administrative state of the interface. Choose between: ▸ ***down*** ▸ ***up***.	OPTIONAL
operstatus	The operational state of the interface. Choose between: ▸ ***down*** ▸ ***up***.	OPTIONAL
linkstatus	The link state of the interface. Choose between: ▸ ***down*** ▸ ***up***.	OPTIONAL

RELATED COMMANDS:

ip ifadd	Create an IP interface.
ip ifdelete	Delete an IP interface.
ip iflist	Display all the IP interfaces.

ip ipadd

Assign an IP address to an IP interface.

SYNTAX:

```
ip ipadd   intf = <string>
           addr = <ip-address>
           [netmask = <ip-mask(dotted or cidr)>]
           [pointopoint = <ip-address>]
           [addroute = <{disabled | enabled}>]
```

where:

intf	The IP interface name.	REQUIRED
addr	The new IP address to be added.	REQUIRED
netmask	The subnetmask associated with this address.	OPTIONAL
pointopoint	The remote IP address in case of a dedicated point-to-point link.	OPTIONAL
addroute	Add typical net/subnet routes automatically according to the default (or specified) subnet mask (enabled) or not (disabled). The default is ***disabled***.	OPTIONAL

EXAMPLE:

```
=>ip iplist
Interface        Type            IP-address       Point-to-point/Mask
1   eth0         Ethernet        10.0.0.138       255.255.255.0
1   eth0         Ethernet        169.254.141.11   255.255.0.0
0   loop         Ethernet        127.0.0.1        255.0.0.0

=>ip ipadd intf=eth0 addr=10.0.0.2/24 addroute=enabled
=>ip aplist
Interface        Type            IP-address       Point-to-point/Mask
1   eth0         Ethernet        10.0.0.2         255.255.255.0
1   eth0         Ethernet        10.0.0.138       255.255.255.0
1   eth0         Ethernet        169.254.141.11   255.255.0.0
0   loop         Ethernet        127.0.0.1        255.0.0.0
=>
```

RELATED COMMANDS:

ip ipdelete	Remove an IP address from an IP interface.
ip iplist	Display all the configured IP addresses.

ip ipconfig

Modify an IP address configuration.

SYNTAX:

```
ip ipconfig  addr = <ip-address>
             [preferred = <{disabled | enabled}>]
             [primary = <{disabled | enabled}>]
```

where:

addr	The IP address to be configured.	REQUIRED
preferred	Make this IP address the preferred address for that subnet (enabled) or not (disabled). The default is ***disabled***.	OPTIONAL
primary	Make this IP address the primary address for the interface (enabled) or not (disabled). The default is ***disabled***.	OPTIONAL

EXAMPLE:

```
=>ip iplist
Interface        Type            IP-address       Point-to-point/Mask
1   eth0         Ethernet        10.0.0.138       255.255.255.0
1   eth0         Ethernet        169.254.141.11   255.255.0.0
0   loop         Ethernet        127.0.0.1        255.0.0.0
=>ip ipconfig addr=169.254.141.11 preferred=enabled primary=enabled
=>ip iplist
Interface        Type            IP-address       Point-to-point/Mask
1   eth0         Ethernet        10.0.0.138       255.255.255.0
1   eth0         Ethernet       *169.254.141.11   255.255.0.0
0   loop         Ethernet        127.0.0.1        255.0.0.0
=>
```

The preferred IP address is marked with “*” in the list.

ip ipdelete

Remove an IP address from an IP interface.

SYNTAX:

```
ip ipdelete  addr = <ip-address>
```

where:

addr	The IP address to be deleted.	REQUIRED

EXAMPLE:

```
=>ip iplist
Interface        Type            IP-address       Point-to-point/Mask
1   eth0         Ethernet        10.0.0.2         255.255.255.0
1   eth0         Ethernet        10.0.0.138       255.255.255.0
1   eth0         Ethernet        169.254.141.11   255.255.0.0
0   loop         Ethernet        127.0.0.1        255.0.0.0

=>ip ipdelete addr=10.0.0.2
=>ip iplist
Interface        Type            IP-address       Point-to-point/Mask
1   eth0         Ethernet        10.0.0.138       255.255.255.0
1   eth0         Ethernet        169.254.141.11   255.255.0.0
0   loop         Ethernet        127.0.0.1        255.0.0.0

=>
```

RELATED COMMANDS:

ip ipadd	Assign an IP address to an IP interface.
ip iplist	Display all the configured IP addresses.

ip iplist

Display all the configured IP addresses.

SYNTAX:

```
ip iplist
```

EXAMPLE:

```
=>ip iplist
Interface            Type             IP-address        Point-to-point/Mask
2   LocalNetwork     Ethernet         10.0.0.138        255.255.255.0
2   LocalNetwork     Ethernet        *192.168.1.254     255.255.255.0
0   loop             Ethernet         127.0.0.1         255.255.255.255
=>
```

RELATED COMMANDS:

ip ipadd	Assign an IP address to an IP interface.
ip ipdelete	Remove an IP address from an IP interface.

ip mcast rtadd

Add a multicast route to the multicast routing table.

SYNTAX:

```
ip mcast rtadd    srcintf = <string>
                  [src = <ip-address>]
                  grp = <ip-address>
                  dstintf = <string>
                  [ttl = <number{1-255}>]
                  [ttlincr = {disabled | enabled}]
```

where:

srcintf	The source IP interface.	REQUIRED
src	The source IP address.	OPTIONAL
grp	The multicast group IP address.	REQUIRED
dstintf	The destination IP interface.	REQUIRED
ttl	The time-to-live for that destination IP interface.	OPTIONAL
ttlincr	Increment TTL before packet is send.	OPTIONAL

RELATED COMMANDS:

ip mcast rtdelete	Delete a multicast route from the multicast routing table.
ip mcast rtlist	Display the multicast routing table.
ip mcast flush	Flush the multicast routing table.

ip mcast rtdelete

Delete a multicast route from the multicast routing table.

SYNTAX:

```
ip mcast rtdelete   srcintf = <string>
                    [src = <ip-address>]
                    grp = <ip-address>
                    dstintf = <string>
```

where:

srcintf	The source IP interface.	REQUIRED
src	The source IP address.	OPTIONAL
grp	The multicast group IP address.	REQUIRED
dstintf	The destination IP interface.	REQUIRED

RELATED COMMANDS:

ip mcast rtadd	Add a multicast route to the multicast routing table.
ip mcast rtlist	Display the multicast routing table.
ip mcast flush	Flush the multicast routing table.

ip mcast rtlist

Display the multicast routing table.

SYNTAX:

```
ip mcast rtlist   [expand = <{disabled | enabled}>}]
```

where:

expand	Enable or disable expanded listing. The default is ***disabled***.	OPTIONAL

RELATED COMMANDS:

ip mcast rtadd	Add a multicast route to the multicast routing table.
ip mcast rtdelete	Delete a multicast route from the multicast routing table.
ip mcast flush	Flush the multicast routing table.

ip mcast flush

Flush the multicast routing table.

SYNTAX:

```
ip mcast flush
```

RELATED COMMANDS:

ip mcast rtadd	Add a multicast route to the multicast routing table.
ip mcast rtdelete	Delete a multicast route from the multicast routing table.
ip mcast rtlist	Display the multicast routing table.

ip rtadd

Add a route to the routing table.

SYNTAX:

```
ip rtadd  dst = <ip-address>
          [dstmsk = <ip-mask(dotted or cidr)>]
          [label = <string>]
          [gateway = <ip-address>]
          [intf = <string>]
          [srcintf = <string>]
          [metric = <number{0-100}>]
```

where:

dst	The destination IP address(es) for this route. **Note** Supports ip/mask notation.	REQUIRED
dstmsk	The destination IP address mask.	OPTIONAL
label	The name of the label.	OPTIONAL
gateway	The IP address of the next hop (direct connected gateway or extended route). **Note** The parameters ***gateway*** and ***intf*** are mutually exclusive.	OPTIONAL
intf	Only for special interface routes: the outgoing IP interface name. **Note** The parameters ***gateway*** and ***intf*** are mutually exclusive.	OPTIONAL
srcintf	Use this interface for source address selection.	OPTIONAL
metric	The metric for this route (weight factor). The lower the metric, the higher the weight. The default is ***0***.	OPTIONAL

EXAMPLE:

```
=>ip rtlist
        Destination Label          Gateway       Intf Mtrc Status
        10.0.0.0/24             10.0.0.140        eth0    0  [UP]
      10.0.0.140/32             10.0.0.140        eth0    0  [UP]
       127.0.0.1/32              127.0.0.1        loop    0  [UP]
=>ip rtadd dst=10.10.0.0/24 label=Interactive gateway=10.0.0.140
=>ip rtlist
        Destination Label             Gateway       Intf Mtrc Status
        10.0.0.0/24                 10.0.0.140        eth0    0  [UP]
       10.10.0.0/24 Interactive     10.0.0.140        eth0    0  [UP]
      10.0.0.140/32                 10.0.0.140        eth0    0  [UP]
       127.0.0.1/32                  127.0.0.1        loop    0  [UP]
=>
```

RELATED COMMANDS:

ip rtdelete	Delete a route from the routing table.
ip rtlist	Display the routing table.

ip rtdelete

Delete a route from the routing table.

SYNTAX:

```
ip rtdelete  dst = <ip-address>
             [dstmsk = <ip-mask(dotted or cidr)>]
             [label = <string>]
             [gateway = <ip-address>]
             [intf = <string>]
```

where:

dst	The destination IP address(es) for this route. **Note** Supports cidr notation.	REQUIRED
dstmsk	The destination IP address mask.	OPTIONAL
label	The name of the label.	OPTIONAL
gateway	The IP address of the next hop. The next hop must be directly connected. **Note** The parameters ***gateway*** and ***intf*** are mutually exclusive.	OPTIONAL
intf	Only for special interface routes: the outgoing IP interface name. **Note** The parameters ***gateway*** and ***intf*** are mutually exclusive.	OPTIONAL

EXAMPLE:

```
=>ip rtlist
        Destination Label            Gateway       Intf Mtrc Status
        10.0.0.0/24               10.0.0.140        eth0    0  [UP]
       10.10.0.0/24 Interactive   10.0.0.140        eth0    0  [UP]
      10.0.0.140/32               10.0.0.140        eth0    0  [UP]
       127.0.0.1/32                127.0.0.1        loop    0  [UP]
=>ip rtdelete dst=10.10.0.0/24 label=Interactive gateway=10.0.0.140
=>ip rtlist
        Destination Label            Gateway       Intf Mtrc Status
        10.0.0.0/24               10.0.0.140        eth0    0  [UP]
      10.0.0.140/32               10.0.0.140        eth0    0  [UP]
       127.0.0.1/32                127.0.0.1        loop    0  [UP]
=>
```

RELATED COMMANDS:

ip rtadd	Add a route to the routing table.
ip rtlist	Display the routing table.

ip rtlist

Display the routing table.

SYNTAX:

```
ip rtlist  [expand = <{disabled | enabled}>]
```

where:

expand	Enable or disable expanded listing. The default is ***disabled***.	OPTIONAL

EXAMPLE:

```
=>ip rtlist
        Destination Label                Gateway  Interface    Metric Status
      10.0.0.138/32                    127.0.0.1  loop         0      [UP]
       127.0.0.1/32                    127.0.0.1  loop         0      [UP]
        10.0.0.0/24                   10.0.0.138  eth0         0      [UP]
=>ip rtlist expand=enabled
        Destination Label                Gateway  Interface    Metric Status Source-selection
      10.0.0.138/32                    127.0.0.1  loop         0      [UP]   default    127.0.0.1
       127.0.0.1/32                    127.0.0.1  loop         0      [UP]   default    127.0.0.1
        10.0.0.0/24                   10.0.0.138  eth0         0      [UP]   default   10.0.0.138
=>
```

RELATED COMMANDS:

ip rtadd	Add a route to the routing table.
ip rtdelete	Delete a route from the routing table.

ip auto flush

Flush the autoIP interfaces.

SYNTAX:

```
ip auto flush
```

ip auto ifadd

Create an autoIP interface.

SYNTAX:

```
ip auto ifadd  intf = <string>
               [addr = <ip-address>]
```

where:

intf	The name of the IP interface for which a link-local address has to be allocated.	REQUIRED
dest	The preferred link-local IP address.	OPTIONAL

EXAMPLE:

```
=>ip auto ifadd intf=eth0
=> ip auto iflist
eth0      : [INIT] 0.0.0.0
            poolstart = 169.254.1.1  poolend = 169.254.254.254  netmask = 255.255.0.0
            claim : 10  defence : 5  probe : 4  interval : 2 (sec)
            probes sent = 0
            collisions  = 0

=>
```

RELATED COMMANDS:

ip auto ifdelete	Delete an existing autoIP interface.
ip auto iflist	Display the autoIP interfaces.

ip auto ifattach

Select and assign a link-local address to an autoIP interface.

SYNTAX:

```
ip auto ifattach  intf = <string>
```

where:

intf	The name of the autoIP interface for which a link-local address has to be attached.	REQUIRED

EXAMPLE:

```
=> ip auto iflist
ipsec0    : [INIT] 0.0.0.0
            poolstart = 169.254.1.1  poolend = 169.254.254.254  netmask = 255.255.0.0
            claim : 10  defence : 5  probe : 4  interval : 2 (sec)
            probes sent = 0
            collisions  = 0

=>ip auto ifattach intf=ipsec0
=> ip auto iflist
ipsec0    : [SELECTING] 169.254.80.236
            poolstart = 169.254.1.1  poolend = 169.254.254.254  netmask = 255.255.0.0
            claim : 10  defence : 5  probe : 4  interval : 2 (sec)
            probes sent = 2
            collisions  = 0

=>
```

RELATED COMMANDS:

ip auto ifdetach	Release the link-local address for the given autoIP interface.

ip auto ifconfig

Configure an autoIP interface.

SYNTAX:

```
ip auto ifconfig  intf = <string>
                  [addr = <ip-address>]
                  [poolstart = <ip-address>]
                  [poolend = <ip-address>]
                  [netmask = <ip-mask(dotted or cidr)>]
                  [claim = <number{0-65535}>]
                  [defence = <number{0-65535}>]
                  [probe = <number{0-65535}>]
                  [interval = <number{1-65535}>]
```

where:

intf	The name of the autoIP interface to be configured.	REQUIRED
addr	The preferred link-local IP address.	OPTIONAL
poolstart	The start IP address of the link-local address pool. The default is ***169.254.1.1***.	OPTIONAL
poolend	The end IP address of the link-local address pool. The default is ***169.254.254.254***.	OPTIONAL
netmask	The netmask of the link-local IP address pool. The default is ***16***.	OPTIONAL
claim	A number between 0 and 65535. Represents the number of link-local address selection retries before giving up. The default is ***10***.	OPTIONAL
defence	A number between 0 and 65535. Represents the number of times the link-local address is defended before releasing the address. The default is ***5***.	OPTIONAL
probe	A number between 0 and 65535. Represents the number of ARP probes to be sent before accepting a link-local address. The default is ***4***.	OPTIONAL
interval	A number between 1 and 65535 (seconds). Represents the time interval between two ARP probe transmissions. The default is ***2***.	OPTIONAL

EXAMPLE:

```
=> ip auto iflist
eth0      : [INIT] 0.0.0.0
            poolstart = 169.254.1.1  poolend = 169.254.254.254  netmask = 255.255.0.0
            claim : 10  defence : 5  probe : 4  interval : 2 (sec)
            probes sent = 0
            collisions  = 0

=>ip auto ifconfig intf=ipsec0 claim=5 probe=5
=> ip auto iflist
ipsec0    : [INIT] 0.0.0.0
            poolstart = 169.254.1.1  poolend = 169.254.254.254  netmask = 255.255.0.0
            claim : 5  defence : 5  probe : 5  interval : 2 (sec)
            probes sent = 0
            collisions  = 0

=>
```

ip auto ifdelete

Delete an existing autoIP interface.

SYNTAX:

```
ip auto ifdelete  intf = <string>
```

where:

intf	The name of the IP interface to be deleted.	REQUIRED

EXAMPLE:

```
=>ip auto iflist
ipsec0    : [SELECTING] 169.254.80.236
            poolstart = 169.254.1.1  poolend = 169.254.254.254  netmask = 255.255.0.0
            claim : 10  defence : 5  probe : 4  interval : 2 (sec)
            probes sent = 2
            collisions  = 0

=>ip auto ifdelete intf=ipsec0
=>ip auto iflist
=>
```

RELATED COMMANDS:

ip auto ifadd	Create an autoIP interface.
ip auto iflist	Display the autoIP interfaces.

ip auto ifdetach

Release the link-local address for the given autoIP interface.

SYNTAX:

```
ip auto ifdetach  intf = <string>
```

where:

intf	The name of the autoIP interface for which a link-local address has to be detached.	REQUIRED

EXAMPLE:

```
=>ip auto iflist
ipsec0    : [SELECTING] 169.254.80.236
            poolstart = 169.254.1.1  poolend = 169.254.254.254  netmask = 255.255.0.0
            claim : 10  defence : 5  probe : 4  interval : 2 (sec)
            probes sent = 2
            collisions  = 0

=>ip auto ifdetach intf=ipsec0
=>ip auto iflist
ipsec0    : [INIT] 169.254.80.236
            poolstart = 169.254.1.1  poolend = 169.254.254.254  netmask = 255.255.0.0
            claim : 10  defence : 5  probe : 4  interval : 2 (sec)
            probes sent = 0
            collisions  = 0

=>
```

RELATED COMMANDS:

ip auto ifattach	Select and assign a link-local address to an autoIP interface.

ip auto iflist

Display the autoIP interfaces.

SYNTAX:

```
ip auto iflist   [intf = <string>]
```

where:

intf	The name of the autoIP interface to be listed. **Note** If not specified, all the autoIP interfaces are shown.	OPTIONAL

EXAMPLE:

```
=>ip auto iflist
eth0       : [CLAIMED] 169.254.138.1
             poolstart = 169.254.1.1  poolend = 169.254.254.254  netmask = 255.255.0.0
             claim : 10  defence : 5  probe : 4  interval : 2 (sec)
             probes sent = 2
             collisions  = 0

=>
```

RELATED COMMANDS:

ip auto ifadd	Create an autoIP interface.
ip auto ifdelete	Delete an existing autoIP interface.

ip debug httpprobe

Send a HTTP probe.

This HTTP probe will measure the Round Trip Time (RTT) taken to connect and access data from a HTTP server.

SYNTAX:

```
ip debug httpprobe    url = <string>
                      [version = <{1.0 | 1.1}>]
```

where:

url	The Uniform Resource Locator (URL) identifying the HTTP server.	REQUIRED
version	The version of the HTTP server. The default is ***1.0***.	OPTIONAL

EXAMPLE:

The first example shows the measured time for a file that was downloaded:

```
=>ip httpprobe url=http://download.winzip.com/wzipse22.exe
DNS Lookup-RTT       = 19 ms
TCP Connect-RTT      = 20 ms
HTTP transaction-RTT = 18772 ms
Total RTT            = 18811 ms
PageSize             = 385712 Bytes
Download speed       = 20.54 KByte/s
=>
```

If the URL of a normal HTML page is used the figures are not so relevant, as shown in the example below:

```
=>ip httpprobe url=http://www.google.be
DNS Lookup-RTT       = 19 ms
TCP Connect-RTT      = 75 ms
HTTP transaction-RTT = 401 ms
Total RTT            = 495 ms
PageSize             = 3448 Bytes
=>
```

DESCRIPTION:

- DNS Lookup-RTT: RTT taken to perform domain name lookup.
- TCP Connect-RTT: RTT taken to perform a TCP connect to the HTTP Server.
- HTTP Transaction time-RTT: RTT taken to send a request and get a response back from the HTTP Server (the probe retrieves the base HTML page only as body, and does not request hyperlinks within this page).

The SpeedTouch will send the HTTP request, receive the reply, and report the RTT statistics (including the size of the page returned).

ip debug sendto

Send UDP packets.

SYNTAX:

```
ip debug sendto  addr = <ip-address>
                 [count = <number{1-1000000}>]
                 [size = <number{0-20000}>]
                 [interval = <number{100-1000000}>]
                 [listen = <{disabled | enabled}>]
                 [dffield = <{disabled | enabled}>]
                 [srcaddr = <ip-address>]
                 [srcport = <number{1-65535}>]
                 dstport = <number{1-65535}>
                 [dstintf = <string>]
```

where:

addr	The destination IP address.	REQUIRED
count	A number between 1 and 1000000. Represents the number of UDP packets to send. The default is ***1***.	OPTIONAL
size	A number between 0 and 20000 (bytes). Represents the size of the ping packet(s). The default is ***1***.	OPTIONAL
interval	A number between 100 and 10000000 (milliseconds). Represents the intermediate interval between two sent UDP packets. The default is ***100***.	OPTIONAL
listen	Listen for incoming ICMP packets (enabled) or only send ICMP packets (disabled). The default is ***disabled***.	OPTIONAL
dffield	Enable or disable setting of the don't fragment flag in the IP headers of the ping.	OPTIONAL
srcaddr	The IP source address to use.	OPTIONAL
srcport	The UDP source port number to use.	OPTIONAL
dstport	The UDP destination port number to send to.	REQUIRED
dstintf	The IP interface name. By specifying the destination interface with the dstintf parameter, a direct send is performed instead of a routed send. This means that the statefull firewall will be bypassed for the outbound packet. As a result, the returning icmp packet can not be associated with an existing udp connection (because there isn't any) and is legally dropped by the firewall. To prevent this packet from being dropped, disable the ICMPchecks and UDPchecks in the firewall configuration.	OPTIONAL

EXAMPLE:

```
=>ip debug sendto addr=10.0.0.148 listen=on srcport=19 dstport=1025
=>ip debug sendto addr=10.0.0.148 listen=on srcport=19 dstport=1025
1 bytes from 10.0.0.148:1025
41                                              A
=>ip debug sendto addr=10.0.0.148 count=3 listen=on srcport=19 dstport=1025
1 bytes from 10.0.0.148:1025
41                                              A
1 bytes from 10.0.0.148:1025
41                                              A
1 bytes from 10.0.0.148:1025
41                                              A
=>
```

ip debug stats

Display IP statistics.

SYNTAX:

```
ip debug stats
```

EXAMPLE:

```
=>ip debug stats
Total datagrams received                          : 8599
IP header errors                                  : 0
Datagrams forwarded                               : 23
Datagram forwarding errors                        : 3
Datagram forwarding resource errors               : 0
Total Fragments received                          : 0
Fragments dropped due to resources or timeouts    : 0
Datagrams reassembled                             : 0
Datagrams fragmented successfully                 : 0
Datagram fragmentation errors                     : 0
Total Datagram fragments created successfully     : 0
=>
```

ip debug traceconfig

Display/modify the IP stack trace configuration.

SYNTAX:

```
ip debug traceconfig  [input = <{none | label | -telnet | -host | -broadcast
                                | all}>]
                      [forward = <{none | label | -telnet | -host | -broadcast
                                | all}>]
                      [output = <{none | label | -telnet | -host | -broadcast
                                | all}>]
                      [drop = <{none | label | -telnet | -host | -broadcast
                                | all}>]
                      [path = <{none | label | -telnet | -host | -broadcast
                                | all}>]
                      [mode = <{line | dump}>]
                      [arp = <{none | all}>]
```

where:

input	Define the input packets that will be traced. The default is ***none***.	OPTIONAL
forward	Define the forward packets that will be traced. The default is ***none***.	OPTIONAL
output	Define the output packets that will be traced. The default is ***none***.	OPTIONAL
drop	Define the packet drops that will be traced. The default is ***all***.	OPTIONAL
path	Define the packet that will be path-traced. The default is ***none***.	OPTIONAL
mode	Select the packet dump method. Choose between: ▸ ***line***: ▸ ***dump***: . The default is ***line***.	OPTIONAL
arp	Define the ARP packets that will be traced. The default is ***none***.	OPTIONAL

EXAMPLE:

```
=>ip debug traceconfig
Input traces   : none
Forward traces : none
Output traces  : none
Drop traces    : all
Path traces    : none
Trace mode     : line
ARP traces     : none
=>
```

EXAMPLE:

```
=>ip debug traceroute addr = 192.193.195.250 count=3 size=1 interval=1000 maxhops=30 dstport=33433
  maxfail=5 type=icmp utime=yes
:ip debug traceroute addr=192.193.195.250
ttl=1   192.193.195.250 676 us  1351 us 648 us

=>
```

IPQoS Commands

Introduction

This chapter describes the commands of the `ipqos` command group.

Contents

This chapter covers the following commands:

ipqos config

Configure IPQoS for a given destination interface for the IPQoS queues instantiation.

When enabling or disabling IPQoS, take the following into account:

- if the WAN interface (for example PPPoA, IP oA,...) is detached at the time of enabling/disabling IPQoS, then the WAN interface has to be attached in order for the enabling/disabling of IPQoS to take effect.
- if the WAN interface is attached at the time of enabling/disabling IPQoS, then the WAN interface has to be detached and then re-attached in order for the enabling/disabling of IPQoS to take effect.

SYNTAX:

```
ipqos config  dest = <string>
              [state = <{disabled | enabled}>]
              [discard = <{tail | early}>]
              [priority = <{wfq | strict | wrr}>]
              [realtimerate = <number{1-100}>]
              [burstsize = <number{1-128}>]
              [weight1 = <number{1-97}>]
              [weight2 = <number{1-97}>]
              [weight3 = <number{1-97}>]
              [weight4 = <number{1-97}>]
              [maxpackets = <number{0-100}>]
              [maxbytes = <number{0-128}>]
```

where:

dest	The destination interface for the IPQoS queues instantiation. This is an ATM phonebook entry.	REQUIRED
state	Disable or enable IPQoS for the interface. The default is ***disabled***.	OPTIONAL
discard	Determines the packet discard strategy in case of congestion. Choose between: - ***tail***: Tail Drop: arriving packets will be dropped as soon as the destination queue is in an overflow state. - ***early***: Early Packet discard: arriving packets will be dropped early according to the BLUE active queue management algorithm. The default is ***early***.	OPTIONAL
priority	Select the subqueue priority algorithm. Choose between: - ***wfq***: Weighted Fair Queuing (WFQ) is used for the four AF queues. The realtime queue has priority over the WFQ queues, which have priority over the best-effort queue. - ***strict***: Priority queuing is used. Strict Priority scheduling is used between all queues. The higher the queue number, the higher the priority. - ***wrr***: Weighted Round Robin (WRR) is used for the four AF queues. Each queue is scheduled in turn, with a circular “round” wrapping. The default is ***wfq***.	OPTIONAL

realtimerate	A number between 1 and 100. Represents a percentage of the interface bandwidth for rate-limiting of the Real Time queue. In case of congestion, the Real Time queue will only use this percentage of the interface bandwidth when there is also traffic on the other queues. The default is ***80***.	OPTIONAL
burstsize	A number between 1 and 64. Represents the Real Time queue burstsize (in kilobytes) for rate limiting. The default is ***2***.	OPTIONAL
weight1	A number between 1 and 97. Represents the weight of queue 1 used for WFQ or WRR. The default is ***25*** (%).	OPTIONAL
weight2	A number between 1 and 97. Represents the weight of queue 2 used for WFQ or WRR. The default is ***25*** (%).	OPTIONAL
weight3	A number between 1 and 97. Represents the weight of queue 3 used for WFQ or WRR. The default is ***25*** (%).	OPTIONAL
weight4	A number between 1 and 97. Represents the weight of queue 4 used for WFQ or WRR. The default is ***25*** (%).	OPTIONAL
maxpackets	A number between 0 and 250. Represents the maximum number of packets in all IPQoS queues instantiated for one interface. The default is ***250***.	OPTIONAL
maxbytes	A number between 0 and 64. Represents the maximum size in kilobytes in all IPQoS queues instantiated for one interface. The default is ***56***.	OPTIONAL

EXAMPLE:

```
=>ipqos config dest=atm_pvc_8_35 state=enabled
=>ipqos list
Name         State      Discard    Priority  Size      Size      Rate  Burst     Weights
                                             (Packets) (KBytes)  (%)   (KBytes)  Weights
atm_pvc_0_35 disabled   early      wfq       250       56        80%   2         25% 25% 25% 25%
atm_pvc_8_35 enabled    early      wfq       250       56        80%   2         25% 25% 25% 25%
=>
```

RELATED COMMANDS:

ipqos list	Display the IPQoS configuration.

ipqos list

Display the IPQoS configuration.

SYNTAX:

```
ipqos list
```

EXAMPLE:

```
=>ipqos list
Name         State     Discard   Priority  Size      Size      Rate  Burst     Weights
                                           (Packets) (KBytes)  (%)   (KBytes)  Weights
atm_pvc_0_35 disabled  early     wfq       250       56        80%   2         25% 25% 25% 25%
atm_pvc_8_35 enabled   early     wfq       250       56        80%   2         25% 25% 25% 25%
=>
```

RELATED COMMANDS:

ipqos config	Configure IPQoS for a given destination interface for the IPQoS queues instantiation.

ipqos ef config

Configure the IPQoS Expedited Forwarding (EF) timer for an interface.

SYNTAX:

```
ipqos ef config  intf = <string>
                 [state = <{disabled | enabled}>]
                 [timeout = <number{100-10000}>]
                 [mtu = <number{68-65535}>]
```

where:

intf	The name of the IP interface.	REQUIRED
state	Enable or disable the IPQoS EF timer for the interface. The default is ***disabled***.	OPTIONAL
timeout	A number between 100 and 10000 milliseconds. Represents the timeout. The default is ***1000***.	OPTIONAL
mtu	A number between 68 and 65535. Represents the MTU of the IP interface in case of EF data. The default is ***1500***.	OPTIONAL

EXAMPLE:

The example below shows the default configuration:

```
=>ipqos ef list
Interface  State      Timeout    MTU
                      (ms)       (bytes)
loop       disabled   1000       65535
Rt_PPPoA2  disabled   1000       1500
eth0       disabled   1000       1500
=>ipqos ef config intf=Rt_PPPoA2 state=enabled
=>ipqos ef list
Interface  State      Timeout    MTU
                      (ms)       (bytes)
loop       disabled   1000       65535
Rt_PPPoA2  enabled    1000       1500
eth0       disabled   1000       1500
=>
```

RELATED COMMANDS:

ipqos ef list	Display the IPQoS EF timers.
ipqos ef stats	Display the IPQoS EF timer statistics.

ipqos ef list

Display the IPQoS EF timers.

SYNTAX:

```
ipqos ef list
```

EXAMPLE:

```
=>ipqos ef list
Interface   State      Timeout    MTU
                       (ms)       (bytes)
loop        disabled   1000       65535
Rt_PPPoA2   enabled    1000       1500
eth0        disabled   1000       1500
=>
```

RELATED COMMANDS:

ipqos ef config	Configure the IPQoS Expedited Forwarding (EF) timer for an interface.
ipqos ef stats	Display the IPQoS EF timer statistics.

ipqos ef stats

Display the IPQoS EF timer statistics.

SYNTAX:

```
ipqos ef stats
```

EXAMPLE:

```
=>ipqos ef stats
Interface  State      Remain
                      (ms)
loop       active     900
Rt_PPPoA2  active     900
eth0       disabled   0
=>
```

RELATED COMMANDS:

ipqos ef config	Configure the IPQoS Expedited Forwarding (EF) timer for an interface.
ipqos ef list	Display the IPQoS EF timers.

ipqos queue clear

Clear the IPQoS statistics.

SYNTAX:

```
ipqos queue clear
```

EXAMPLE:

```
=>ipqos queue stats
Name  Queue      # packets  # packets  # packets  # packets  # packets  Marking
                   added      marked     removed    dropped    replaced
PVC_1 0            1240       0          1240       0          0        0
      1            0          0          0          0          0        0
      2            0          0          0          0          0        0
      3            234        0          234        0          0        0
      4            0          0          0          0          0        0
      5            1345       0          1345       0          0        0
=>ipqos queue clear
=>ipqos queue stats
Name  Queue      # packets  # packets  # packets  # packets  # packets  Marking
                   added      marked     removed    dropped    replaced
PVC_1 0            0          0          0          0          0        0
      1            0          0          0          0          0        0
      2            0          0          0          0          0        0
      3            0          0          0          0          0        0
      4            0          0          0          0          0        0
      5            0          0          0          0          0        0
=>
```

RELATED COMMANDS:

ipqos queue stats	Show the IPQoS subqueue statistics.

ipqos queue config

Modify the IPQoS subqueue configuration.

SYNTAX:

```
ipqos queue config  dest = <string>
                    queue = <number{0-5}>
                    [propagate = <{disabled | enabled}>]
                    [ecnmarking = <{disabled | enabled}>]
                    [ackfiltering = <{disabled | enabled}>]
                    [maxpackets = <number{0-250}>]
                    [maxbytes = <number{0-64}>]
                    [respackets = <number{0-250}>]
                    [resbytes = <number{0-64}>]
                    [hold = <number>]
                    [markprob = <number{1-1000}>]
```

where:

dest	The destination interface for the IPQoS queues instantiation. Typically, an ATM phonebook entry.	REQUIRED
queue	A number between 0 and 5. Represents the number of the queue, where: ▸ 5 is the Real time queue ▸ 4 is the Assured Forwarding (AF) queue 4 ▸ 3 is the AF queue 3 ▸ 2 is the AF queue 2 ▸ 1 is the AF queue 1 ▸ 0 is the Best Effort queue.	OPTIONAL
propagate	Higher priority packets will be queued in a lower priority queue, instead of being dropped, as soon as the destination queue is in overflow state. The packet will be put in a lower priority queue only once. Choose between disabled or enabled. The default is ***disabled***. **Note** The propagate flag for the lowest priority subqueue (the Best Effort queue) has no meaning.	OPTIONAL
ecnmarking	Enable Explicit Congestion Notification (ECN) for IP packets in this subqueue (enabled) or not (disabled). The default is ***disabled***.	OPTIONAL
ackfiltering	Enable filtering of TCP ACK packets (enabled) or not (disabled). The default is ***disabled***.	OPTIONAL
maxpackets	A number between 0 and 250. Represents the maximum number of packets in this queue. The default is ***0*** for the Real time queue and ***100*** for the other queues. **Note** 0 means that a maximum size is not enforced.	OPTIONAL

maxbytes	A number between 0 and 64. Represents the maximum size in kilobytes of this queue. The default is ***0*** for the Real time queue and ***20*** for the other queues. **Note** 0 means that a maximum size is not enforced.	OPTIONAL
respackets	A number between 0 and 250. Represents the reserved number of packets in this queue. The default is ***30*** for the Real time queue and ***13*** for the other queues.	OPTIONAL
resbytes	A number between 0 and 64 Represents the reserved size in kilobytes of this queue. The default is ***12*** for the Real time queue and ***4*** for the other queues.	OPTIONAL
hold	A number (of microseconds). Represents the hold time in microseconds for early discard strategy. The default is ***50000***.	OPTIONAL
markprob	A number between 1 and 1000. Represents the maximum packet marking probability in parts per mille for early discard strategy. The default is ***1000***.	OPTIONAL

EXAMPLE:

```
=>ipqos queue list
Name          Queue      Propagate ECN        AckFilter Size       Size       Reserved   Reserved   Holdtime   Markpro
b
                                                             (Packets) (KBytes)   (Packets) (KBytes)  (usecs)
atm_pvc_0_35 0                      disabled  disabled  100        20         13         4          50000      1000
               1          disabled  disabled  disabled   100        20         13         4          50000      1000
               2          disabled  disabled  disabled   100        20         13         4          50000      1000
               3          disabled  disabled  disabled   100        20         13         4          50000      1000
               4          disabled  disabled  disabled   100        20         13         4          50000      1000
               5          disabled  disabled  disabled   0          0           30         12         50000      1000
atm_pvc_8_35 0                      disabled  disabled  100        20         13         4          50000      1000
               1          disabled  disabled  disabled   100        20         13         4          50000      1000
               2          disabled  disabled  disabled   100        20         13         4          50000      1000
               3          disabled  disabled  disabled   100        20         13         4          50000      1000
               4          disabled  disabled  disabled   100        20         13         4          50000      1000
               5          disabled  disabled  disabled   0          0           30         12         50000      1000
=>
```

RELATED COMMANDS:

ipqos queue list	Display the IPQoS subqueue configuration.

ipqos queue list

Display the IPQoS subqueue configuration.

SYNTAX:

```
ipqos queue list  [dest = <string}>]
```

where:

dest	The destination interface for the IPQoS queues instantiation. This is an ATM phonebook entry. **Note** If not specified, the IPQoS subqueue configuration for all the interfaces will be shown.	OPTIONAL

EXAMPLE:

```
=>ipqos queue list
Name          Queue   Propagate ECN        AckFilter  Size    Size       Reserved  Reserved  Holdtime  Markprob

                                                       (Packets) (KBytes)  (Packets) (KBytes)  (usecs)
atm_pvc_0_35 0                   disabled  disabled  100     20         13         4          50000     1000
              1        disabled  disabled  disabled   100     20         13         4          50000     1000
              2        disabled  disabled  disabled   100     20         13         4          50000     1000
              3        disabled  disabled  disabled   100     20         13         4          50000     1000
              4        disabled  disabled  disabled   100     20         13         4          50000     1000
              5        disabled  disabled  disabled   0       0          30         12         50000     1000
atm_pvc_8_35 0                   disabled  disabled  100     20         13         4          50000     1000
              1        disabled  disabled  disabled   100     20         13         4          50000     1000
              2        disabled  disabled  disabled   100     20         13         4          50000     1000
              3        disabled  disabled  disabled   100     20         13         4          50000     1000
              4        disabled  disabled  disabled   100     20         13         4          50000     1000
              5        disabled  disabled  disabled   0       0          30         12         50000     1000
=>
```

RELATED COMMANDS:

ipqos queue config	Modify the IPQoS subqueue configuration.

ipqos queue stats

Show the IPQoS subqueue statistics.

SYNTAX:

```
ipqos queue stats    [dest = <string}>]
```

where:

dest The destination interface for the IPQoS queues instantiation. This is an ATM phonebook entry. OPTIONAL

Note If not specified, the IPQoS subqueue statistics for all the interfaces will be shown.

EXAMPLE:

```
=>ipqos queue stats
Name   Queue       # packets  # packets  # packets  # packets  # packets  Marking
                     added      marked     removed    dropped    replaced
PVC_1 0              1240       0          1240       0          0         0%
      1              0          0          0          0          0         0%
      2              0          0          0          0          0         0%
      3              234        0          234        0          0         0%
      4              0          0          0          0          0         0%
      5              145        0          145        0          0         0%
=>
```

RELATED COMMANDS:

ipqos queue clear Clear the IPQoS statistics.

Label Commands

Introduction

This chapter describes the commands of the `label` command group.

Contents

This chapter covers the following commands:

label add

Create a new label.

SYNTAX:

```
label add  name = <string>
```

where:

name	The name of the label to be added.	REQUIRED

EXAMPLE:

```
=>label list
Name        Class      Def      Ack        Bidirect Inherit  Tosmark  Type  Value    Ttlover  Ttl  Use  Trace
DSCP        overwrite  dscp     defclass   disabled disabled disabled tos   0        disabled 0    0    disabled
Interactive increase   8        8          disabled disabled disabled tos   0        disabled 0    0    disabled
Management  increase   12       12         disabled disabled disabled tos   0        disabled 0    0    disabled
Video       increase   10       10         disabled disabled disabled tos   0        disabled 0    0    disabled
VoIP        overwrite  14       14         enabled  enabled  disabled tos   0        disabled 0    0    disabled
default     increase   default  prioritize disabled disabled disabled tos   0        disabled 0    0    disabled
=>label add name=myLABEL
=>label list
Name        Class      Def      Ack        Bidirect Inherit  Tosmark  Type  Value    Ttlover  Ttl  Use  Trace
DSCP        overwrite  dscp     defclass   disabled disabled disabled tos   0        disabled 0    0    disabled
Interactive increase   8        8          disabled disabled disabled tos   0        disabled 0    0    disabled
Management  increase   12       12         disabled disabled disabled tos   0        disabled 0    0    disabled
Video       increase   10       10         disabled disabled disabled tos   0        disabled 0    0    disabled
VoIP        overwrite  14       14         enabled  enabled  disabled tos   0        disabled 0    0    disabled
default     increase   default  prioritize disabled disabled disabled tos   0        disabled 0    0    disabled
myLABEL     ignore     0        0          disabled disabled disabled tos   0        disabled 0    0    disabled
=>
```

RELATED COMMANDS:

label delete	Delete a label.
label list	Display the labels.

label delete

Delete a label.

SYNTAX:

```
label delete   name = <string>
               [force = <{disabled | enabled}>]
```

where:

name	The name of the label to be deleted.	REQUIRED
force	Force delete and cleanup references even when the label is still in use (enabled) or not (disabled). The default is ***disabled***.	OPTIONAL

EXAMPLE:

```
=>label list
Name        Class      Def      Ack        Bidirect Inherit  Tosmark  Type  Value    Ttlover  Ttl  Use  Trace
DSCP        overwrite  dscp     defclass   disabled disabled disabled tos   0        disabled 0    0    disabled
Interactive increase   8        8          disabled disabled disabled tos   0        disabled 0    0    disabled
Management  increase   12       12         disabled disabled disabled tos   0        disabled 0    0    disabled
Video       increase   10       10         disabled disabled disabled tos   0        disabled 0    0    disabled
VoIP        overwrite  14       14         enabled  enabled  disabled tos   0        disabled 0    0    disabled
default     increase   default  prioritize disabled disabled disabled tos   0        disabled 0    0    disabled
myLABEL     ignore     0        0          disabled disabled disabled tos   0        disabled 0    0    disabled
=>label delete name=myLABEL force=yes
=>label list
Name        Class      Def      Ack        Bidirect Inherit  Tosmark  Type  Value    Ttlover  Ttl  Use  Trace
DSCP        overwrite  dscp     defclass   disabled disabled disabled tos   0        disabled 0    0    disabled
Interactive increase   8        8          disabled disabled disabled tos   0        disabled 0    0    disabled
Management  increase   12       12         disabled disabled disabled tos   0        disabled 0    0    disabled
Video       increase   10       10         disabled disabled disabled tos   0        disabled 0    0    disabled
VoIP        overwrite  14       14         enabled  enabled  disabled tos   0        disabled 0    0    disabled
default     increase   default  prioritize disabled disabled disabled tos   0        disabled 0    0    disabled
=>
```

RELATED COMMANDS:

label add	Create a new label.
label list	Display the labels.

label flush

Flush all labels.

The flush command does not impact previously saved configurations.

SYNTAX:

```
label flush
```

label list

Display the labels.

SYNTAX:

```
label list   [name = <string>]
```

where:

name	The name of the label to be displayed. **Note** If not specified, all the labels will be displayed.	OPTIONAL

EXAMPLE:

```
=>label list
Name        Class      Def      Ack        Bidirect Inherit  Tosmark  Type  Value    Ttlover  Ttl  Use  Trace
DSCP        overwrite  dscp     defclass   disabled disabled disabled tos   0        disabled 0    0    disabled
Interactive increase   8        8          disabled disabled disabled tos   0        disabled 0    0    disabled
Management  increase   12       12         disabled disabled disabled tos   0        disabled 0    0    disabled
Video       increase   10       10         disabled disabled disabled tos   0        disabled 0    0    disabled
VoIP        overwrite  14       14         enabled  enabled  disabled tos   0        disabled 0    0    disabled
default     increase   default  prioritize disabled disabled disabled tos   0        disabled 0    0    disabled
=>
=>label list name=Interactive
Name          Class      Defclass Ackclass Ttlover  Tt    Tosmark  Tos      Use      Trace
Interactive increase   8        8          disabled disabled disabled tos   0       disabled 0    0    disabled
=>
```

RELATED COMMANDS:

label add	Create a new label.
label delete	Delete a label.

label modify

Modify a label configuration.

SYNTAX:

```
label modify  name = <string>
              [classification = <{ignore | overwrite | increase}>]
              [defclass = <number{0-15} | dscp | default>]
              [ackclass = <number{0-15} | defclass | prioritize>]
              [bidirectional = <{disabled | enabled}>]
              [inheritance = <{disabled | enabled}>]
              [tosmarking = <{disabled | enabled}>]
              [tos = <number{0-255}>]
              [dscp = <{DSCP name> | <number>}]
              [precedence = <{IP precedence type> | <number>}]
              [trace = <{disabled | enabled}>]
```

where:

name	The name of the label to be configured.	REQUIRED
classification	Select the method of classification, in other words, determine what the Layer 3 class assignment must do with the priority of the data packet (as set by Layer 2). Choose between: ▸ ***ignore***: Ignore the class parameters ***defclass*** and ***ackclass***, but use the class as set by Layer 2 (VLAN user priority, ATM QoS). ▸ ***overwrite***: Change the class to ***defclass*** and ***ackclass***, overwriting the value set by Layer 2 (VLAN user priority, ATM QoS). ▸ ***increase***: Change the class according to ***defclass*** and ***ackclass***, but only if the defclass value is higher than the class value already set by Layer 2. The default is ***ignore***. **Note** The class as set by Layer 2 is derived from: ▸ the VLAN user priority (in case of VLAN or priority tagged frames) ▸ the ATM PVC QoS class (in case the packet is received from an ATM PVC). For non-VLAN frames or non-PVC received data, Layer 2 sets the internal class (priority) to ***4*** by default.	OPTIONAL
defclass	The default priority class of the assigned connection. Choose between: ▸ A number between 0 and 15 ▸ dscp ▸ default. The default is ***0***.	OPTIONAL
ackclass	The priority class of the ACK segments of the TCP connection. Choose between: ▸ A number between 0 and 15 ▸ prioritize ▸ defclass. The default is ***0***.	OPTIONAL

bidirectional	The label applies to the initiator stream, the returning stream (the current connection) as well as to the child connections (enabled) or not (disabled). The default is ***disabled***.	OPTIONAL
inheritance	The label will be copied to all child connection streams in the same direction (enabled) or not (disabled). The default is ***disabled***.	OPTIONAL
tosmarking	Enable or disable tos marking. The default is ***disabled***.	OPTIONAL
tos	A number between 0 and 255. Represents the ToS specification in the IP packet (used for tosmarking). The default is ***0***. **Note** The parameters ***tos***, ***precedence*** and ***dscp*** are mutually exclusive.	OPTIONAL
dscp	The DSCP in the IP packet (part of tos). Select a DSCP (see “ Differentiated Services Code Point (DSCP)” on page 619) or, alternatively, specify the number. **Note** The parameters ***tos***, ***precedence*** and ***dscp*** are mutually exclusive.	OPTIONAL
precedence	The precedence in the IP packet (part of tos). Select an IP precedence (see “ IP Precedence” on page 618) or, alternatively, specify the number. **Note** The parameters ***tos***, ***precedence*** and ***dscp*** are mutually exclusive.	OPTIONAL
trace	Enable or disable IP tracing for this label. The default is ***disabled***.	OPTIONAL

EXAMPLE:

```
=>label list
Name        Class      Def      Ack        Bidirect Inherit  Tosmark  Type  Value    Use  Trace
DSCP        overwrite  dscp     defclass   disabled disabled disabled tos   0        0     0    disabled
Interactive increase   8        8          disabled disabled disabled tos   0        0     0    disabled
Management  increase   12       12         disabled disabled disabled tos   0        0     0    disabled
Video       increase   10       10         disabled disabled disabled tos   0        0     0    disabled
VoIP        overwrite  14       14         enabled  enabled  disabled tos   0        0     0    disabled
default     increase   default  prioritize disabled disabled disabled tos   0        0     0    disabled
myLABEL     ignore     0        0          disabled disabled disabled tos   0        0     0    disabled
=>label modify name=myLABEL classification=increase defclass=7 ackclass=7 bidirectional=enabled
  inheritance=enabled tosmarking=enabled tos=234 trace=enabled
=>label list
Name        Class      Def      Ack        Bidirect Inherit  Tosmark  Type  Value    Use  Trace
DSCP        overwrite  dscp     defclass   disabled disabled disabled tos   0        0     0    disabled
Interactive increase   8        8          disabled disabled disabled tos   0        0     0    disabled
Management  increase   12       12         disabled disabled disabled tos   0        0     0    disabled
Video       increase   10       10         disabled disabled disabled tos   0        0     0    disabled
VoIP        overwrite  14       14         enabled  enabled  disabled tos   0        0     0    disabled
default     increase   default  prioritize disabled disabled disabled tos   0        0     0    disabled
myLABEL     increase   7       7           enabled  enabled  enabled  tos   234      0     0    enabled
=>
```

label chain add

Add a new label chain.

SYNTAX:

```
label chain add  chain = <string>
```

where:

chain	The name of the chain to be added.	REQUIRED

EXAMPLE:

```
=>label chain list

Chains
======
Name                             Description
-------------------------------------------------
routing_labels                   system
rt_user_labels                   user
rt_default_labels                user
qos_labels                       system
qos_user_labels                  user
qos_default_labels               user
=>label chain add chain=myChain
=>label chain list

Chains
======
Name                             Description
-------------------------------------------------
routing_labels                   system
rt_user_labels                   user
rt_default_labels                user
qos_labels                       system
qos_user_labels                  user
qos_default_labels               user
myChain                          user
=>
```

RELATED COMMANDS:

label chain delete	Delete a label chain.
label chain list	Display a list of chains.

label chain delete

Delete a label chain.

SYNTAX:

```
label chain delete    chain = <string>
```

where:

chain	The name of the chain to be deleted.	REQUIRED

EXAMPLE:

```
=>label chain list

Chains
======
Name                             Description
-------------------------------------------------
routing_labels                   system
rt_user_labels                   user
rt_default_labels                user
qos_labels                       system
qos_user_labels                  user
qos_default_labels               user
myChain                          user
=>label chain delete chain=myChain
=>label chain list

Chains
======
Name                             Description
-------------------------------------------------
routing_labels                   system
rt_user_labels                   user
rt_default_labels                user
qos_labels                       system
qos_user_labels                  user
qos_default_labels               user
=>
```

RELATED COMMANDS:

label chain add	Add a new label chain.
label chain list	Display a list of chains.

label chain flush

Flush all label chains.

SYNTAX:

```
label chain flush
```

label chain list

Display a list of chains.

SYNTAX:

```
label chain list  [format = <{pretty | cli}>]
```

where:

format — Select the output format of the list. Choose between: — OPTIONAL

- ***pretty***: the configuration is shown as intuitive output in clear text.
- ***cli***: the configuration is shown via the CLI commands configuration.

The default is ***pretty***.

EXAMPLE:

```
=>label chain list

Chains
======
Name                              Description
-------------------------------------------------
routing_labels                    system
rt_user_labels                    user
rt_default_labels                 user
qos_labels                        system
qos_user_labels                   user
qos_default_labels                user

=>label chain list format=cli

:label chain add chain=rt_user_labels
:label chain add chain=rt_default_labels
:label chain add chain=qos_user_labels
:label chain add chain=qos_default_labels
=>
```

RELATED COMMANDS:

label chain add	Add a new label chain.
label chain delete	Delete a label chain.

label rule add

Add a label rule.

SYNTAX:

```
label rule add  chain = <chain name>
                [index = <number>]
                [name = <string>]
                [clink = <chain name>]
                [srcintf [!]= <string>]
                [srcip [!]= <{ip address | private}>]
                [dstip [!]= <{ip address | private}>]
                [serv [!]= <{service name}>]
                [log = <{disabled | enabled}>]
                [state = <{disabled | enabled}>]
                label = <string>
```

If a value is preceded by a “!”, it means NOT.
For example “srcintf=!wan” means “if srcintf is different from WAN”.

where:

chain	The name of the chain in which the rule must be inserted.	REQUIRED
index	The index number of the rule before which the new rule must be added. **Tip** Use the command `:label rule list` to obtain the index number of the applicable rule.	OPTIONAL
name	The name of the new rule.	OPTIONAL
clink	The name of the chain to be parsed when this rule applies.	OPTIONAL
srcintf	The name of the source interface expression.	OPTIONAL
srcip	The name of the source IP expression.	OPTIONAL
dstip	The name of the destination IP expression.	OPTIONAL
serv	The name of the service expression.	OPTIONAL
log	Disable or enable logging when this rule applies. The default is ***disabled***.	OPTIONAL
state	Disable or enable this rule. The default is ***enabled***.	OPTIONAL
label	Choose between: ▸ None ▸ link (when clink is used) ▸ label name.	REQUIRED

EXAMPLE:

```
=>label rule list

Rules (flags: C=Constant, D=Dynamic, E=Enable, L=Log)
=====
Chain                            Nr.  Flags  Rule
--------------------------------------------------------------------------------------------------
routing_labels                   1    CDE                    : link             rt_user_labels
                                 2    CDE                    : link             rt_default_labels
qos_labels                       1    CDE                    : link             qos_user_labels
                                 2    CDE                    : link             qos_default_labels
qos_default_labels               1    C E                    : VoIP             sip *.* > *.*
                                 2    C E                    : VoIP             h323 *.* > *.*
                                 3    C E                    : Interactive      telnet *.* > *.*
                                 4    C E                    : Interactive      smtp *.* > *.*
                                 5    C E                    : Interactive      imap4-ssl *.* > *.*
                                 6    C E                    : Interactive      imap3 *.* > *.*
                                 7    C E                    : Interactive      imap *.* > *.*
                                 8    C E                    : Interactive      imaps *.* > *.*
                                 9    C E                    : Interactive      pop3s *.* > *.*
                                 10   C E                    : Interactive      pop3 *.* > *.*
                                 11   C E                    : Interactive      pop2 *.* > *.*
                                 12   C E                    : Interactive      httpproxy *.* > *.*
                                 13   C E                    : Interactive      http *.* > *.*
                                 14   C E                    : Interactive      https *.* > *.*
                                 15   C E                    : Interactive      esp *.* > *.*
                                 16   C E                    : Interactive      ah *.* > *.*
                                 17   C E                    : Management       dns *.* > *.*
                                 18   C E                    : Management       ike *.* > *.*
                                 19     E                    : Management       icmp *.* > *.*
                                 20   C E                    : Video            rtsp *.* > *.*
                                 21   C E                    : Video            igmp *.* > *.*
                                 22   C E    default         : default          !wan.* > *.*
=>label rule add chain=myChain name=myRule dstip=150.150.150.150 serv=DiffServ log=enabled state=enabled
  | label=myLABEL
=>label rule list

Rules (flags: C=Constant, D=Dynamic, E=Enable, L=Log)
=====
Chain                            Nr.  Flags  Rule
--------------------------------------------------------------------------------------------------
routing_labels                   1    CDE                    : link             rt_user_labels
                                 2    CDE                    : link             rt_default_labels
qos_labels                       1    CDE                    : link             qos_user_labels
                                 2    CDE                    : link             qos_default_labels
qos_default_labels               1    C E                    : VoIP             sip *.* > *.*
                                 2    C E                    : VoIP             h323 *.* > *.*
                                 3    C E                    : Interactive      telnet *.* > *.*
                                 4    C E                    : Interactive      smtp *.* > *.*
                                 5    C E                    : Interactive      imap4-ssl *.* > *.*
                                 6    C E                    : Interactive      imap3 *.* > *.*
                                 7    C E                    : Interactive      imap *.* > *.*
                                 8    C E                    : Interactive      imaps *.* > *.*
                                 9    C E                    : Interactive      pop3s *.* > *.*
                                 10   C E                    : Interactive      pop3 *.* > *.*
                                 11   C E                    : Interactive      pop2 *.* > *.*
                                 12   C E                    : Interactive      httpproxy *.* > *.*
                                 13   C E                    : Interactive      http *.* > *.*
                                 14   C E                    : Interactive      https *.* > *.*
                                 15   C E                    : Interactive      esp *.* > *.*
                                 16   C E                    : Interactive      ah *.* > *.*
                                 17   C E                    : Management       dns *.* > *.*
                                 18   C E                    : Management       ike *.* > *.*
                                 19     E                    : Management       icmp *.* > *.*
                                 20   C E                    : Video            rtsp *.* > *.*
                                 21   C E                    : Video            igmp *.* > *.*
                                 22   C E    default         : default          !wan.* > *.*
myChain                          1    C EL   myRule      : myLABEL DiffServ *.* > *.150.150.150.150
=>
```

RELATED COMMANDS:

label rule delete	Delete a label rule.
label rule list	Display a list of label rules.

label rule delete

Delete a label rule.

SYNTAX:

```
label rule delete   chain = <string>
                    index = <number>
```

where:

chain	The name of the chain in which a rule must be deleted.	REQUIRED
index	The index number of the rule in the chain. **Tip** Use the command **:label rule list** to obtain the index number of the applicable rule.	REQUIRED

EXAMPLE:

```
=>label rule list

Rules (flags: C=Constant, D=Dynamic, E=Enable, L=Log)
=====
Chain                            Nr.  Flags  Rule
--------------------------------------------------------------------------------------------------
routing_labels                   1    CDE                : link             rt_user_labels
                                 2    CDE                : link             rt_default_labels
qos_labels                       1    CDE                : link             qos_user_labels
                                 2    CDE                : link             qos_default_labels
qos_default_labels               1    C E                : VoIP             sip *.* > *.*
                                 2    C E                : VoIP             h323 *.* > *.*
                                 3    C E                : Interactive      telnet *.* > *.*
...
                                 19     E                    : Management       icmp *.* > *.*
                                 20   C E                    : Video            rtsp *.* > *.*
                                 21   C E                    : Video            igmp *.* > *.*
                                 22   C E    default         : default          !wan.* > *.*
myChain                          1    C EL   myRule      : myLABEL DiffServ *.* > *.150.150.150.150
=>label rule delete chain=myChain index=1
=>label rule list

Rules (flags: C=Constant, D=Dynamic, E=Enable, L=Log)
=====
Chain                            Nr.  Flags  Rule
--------------------------------------------------------------------------------------------------
routing_labels                   1    CDE                : link             rt_user_labels
                                 2    CDE                : link             rt_default_labels
qos_labels                       1    CDE                : link             qos_user_labels
                                 2    CDE                : link             qos_default_labels
qos_default_labels               1    C E                : VoIP             sip *.* > *.*
                                 2    C E                : VoIP             h323 *.* > *.*
                                 3    C E                : Interactive      telnet *.* > *.*
...
                                 19     E                    : Management       icmp *.* > *.*
                                 20   C E                    : Video            rtsp *.* > *.*
                                 21   C E                    : Video            igmp *.* > *.*
                                 22   C E    default         : default          !wan.* > *.*
=>
```

RELATED COMMANDS:

label rule add	Add a label rule.
label rule list	Display a list of label rules.

label rule flush

Flush all label rules.

The chains themselves are not removed.

The flush command does not impact previously saved configurations.

SYNTAX:

```
label rule flush  [chain = <string>]
```

where:

chain	The name of the chain to be flushed. **Note** If not specified, all the rules for all the chains are flushed.	OPTIONAL

label rule list

Display a list of label rules.

SYNTAX:

```
label rule list   [chain = <string>]
                  [format = <{pretty | cli}>]
```

where:

chain	The name of the chain for which the rules must be listed. **Note** If not specified, all rules for all chains are shown.	OPTIONAL
format	Select the output format of the list. Choose between: ▶ ***pretty***: the configuration is shown as intuitive output in clear text. ▶ ***cli***: the configuration is shown via the CLI commands configuration. The default is ***pretty***.	OPTIONAL

EXAMPLE:

```
=>label rule list format=cli
:label rule add chain=qos_default_labels index=1 serv=sip log=disabled state=enabled label=VoIP
:label rule add chain=qos_default_labels index=2 serv=h323 log=disabled state=enabled label=VoIP
:label rule add chain=qos_default_labels index=3 serv=telnet log=disabled state=enabled label=Interactive
:label rule add chain=qos_default_labels index=4 serv=smtp log=disabled state=enabled label=Interactive
:label rule add chain=qos_default_labels index=5 serv=imap4-ssl log=disabled state=enabled label=Interactive
:label rule add chain=qos_default_labels index=6 serv=imap3 log=disabled state=enabled label=Interactive
:label rule add chain=qos_default_labels index=7 serv=imap log=disabled state=enabled label=Interactive
:label rule add chain=qos_default_labels index=8 serv=imaps log=disabled state=enabled label=Interactive
:label rule add chain=qos_default_labels index=9 serv=pop3s log=disabled state=enabled label=Interactive
:label rule add chain=qos_default_labels index=10 serv=pop3 log=disabled state=enabled label=Interactive
:label rule add chain=qos_default_labels index=11 serv=pop2 log=disabled state=enabled label=Interactive
:label rule add chain=qos_default_labels index=12 serv=httpproxy log=disabled state=enabled label=Interactive
:label rule add chain=qos_default_labels index=13 serv=http log=disabled state=enabled label=Interactive
:label rule add chain=qos_default_labels index=14 serv=https log=disabled state=enabled label=Interactive
:label rule add chain=qos_default_labels index=15 serv=esp log=disabled state=enabled label=Interactive
:label rule add chain=qos_default_labels index=16 serv=ah log=disabled state=enabled label=Interactive
:label rule add chain=qos_default_labels index=17 serv=dns log=disabled state=enabled label=Management
:label rule add chain=qos_default_labels index=18 serv=ike log=disabled state=enabled label=Management
:label rule add chain=qos_default_labels index=19 serv=icmp log=disabled state=enabled label=Management
:label rule add chain=qos_default_labels index=20 serv=rtsp log=disabled state=enabled label=Video
:label rule add chain=qos_default_labels index=21 serv=igmp log=disabled state=enabled label=Video
:label rule add chain=qos_default_labels index=22 name=default srcintf=!wan log=disabled state=enabled
| label=default
=>
```

RELATED COMMANDS:

label rule add	Add a label rule.
label rule delete	Delete a label rule.

label rule modify

Modify a label rule.

SYNTAX:

```
label rule modify   chain = <chain name>
                    index = <number>
                    [newindex = <number>]
                    [name = <string>]
                    [clink = <chain name>]
                    [srcintf [!]= <string>]
                    [srcip [!]= <{ip address | private}>]
                    [dstip [!]= <{ip address | private}>]
                    [serv [!]= <{service name}>]
                    [log = <{disabled | enabled}>]
                    [state = <{disabled | enabled}>]
                    [label = <string>]
```

If a value is preceded by a “!”, it means “NOT”.
For example “srcintf=!wan” means “if srcintf is different from WAN”.

where:

chain	The name of the chain which contains the rule.	REQUIRED
index	The number of the rule in the chain.	REQUIRED
newindex	The new number of the rule in the chain.	OPTIONAL
name	The name of the new rule.	OPTIONAL
clink	The name of the chain to be parsed when this rule applies.	OPTIONAL
srcintf	The name of the source interface expression.	OPTIONAL
srcip	The name of the source IP expression.	OPTIONAL
dstip	The name of the destination IP expression.	OPTIONAL
serv	The name of the device expression.	OPTIONAL
log	Disable or enable logging when this rule applies.	OPTIONAL
state	Disable or enable this rule.	OPTIONAL
label	Choose between: ▶ None ▶ link (when clink is used) ▶ label name.	OPTIONAL

label rule debug clear

Clear the label rule statistics.

SYNTAX:

```
label rule debug clear   [chain = <string>]
                         [index = <number>]
```

where:

chain	The name of the chain in which the rule is to be found. **Note** If not specified, the statistics for all the rules in all chains will be cleared.	OPTIONAL
index	The index number (determined by the position) of the rule in the chain. **Note** If not specified, the statistics for all the rules in a chain will be cleared.	OPTIONAL

EXAMPLE:

```
=>label rule debug stats chain=qos_labels
chain                             index    packets       bytes
------------------------------------------------------------
qos_labels                            1          0           0
                                      2        203       19146
=>label rule debug clear chain=qos_labels
=>label rule debug stats
chain                             index    packets       bytes
------------------------------------------------------------
routing_labels                        1          0           0
                                      2          0           0
qos_labels                            1          0           0
                                      2          0           0
qos_default_labels                    1          0           0
                                      2          0           0
                                      3          4         168
                                      4          0           0
                                      5          0           0
                                      6          0           0
                                      7          0           0
                                      8          0           0
                                      9          0           0
                                     10          0           0
                                     11          0           0
                                     12          0           0
                                     13         10         480
                                     14          3         144
                                     15          0           0
                                     16          0           0
                                     17          5         329
                                     18          0           0
                                     19          4         452
                                     20        177       17573
=>
```

RELATED COMMANDS:

label rule debug stats	Display the label rule statistics.

label rule debug stats

Display the label rule statistics.

SYNTAX:

```
label rule debug stats   [chain = <string>]
                         [index = <number>]
```

where:

chain	The name of the chain for which the statistics must be shown. **Note** If not specified, the statistics for the rules applicable to all chains are shown.	OPTIONAL
index	The index number of the rule for which the statistics must be shown. **Tip** Use the command `:label rule list` to obtain the index number of the applicable rule. **Note** If not specified, the statistics for all rules applicable to the specified chain are shown.	OPTIONAL

EXAMPLE:

```
=>label rule debug stats chain=qos_labels
chain                            index    packets      bytes
------------------------------------------------------------
qos_labels                           1          0          0
                                     2        167      15690
=>
=>label rule debug stats chain=qos_default_labels index=20
chain                            index    packets      bytes
------------------------------------------------------------
qos_default_labels                  19        165      16421
=>
```

RELATED COMMANDS:

label rule debug clear	Clear the label rule statistics.

label rule debug traceconfig

Display or modify the rule trace configuration.

SYNTAX:

```
label rule debug traceconfig  [trace = <{disabled | enabled}>]
```

where:

trace	Disable or enable rule traces. The default is ***disabled***.	OPTIONAL

EXAMPLE:

```
=>label rule debug traceconfig
:label rule debug traceconfig state=disabled
=>
```

Language Commands

Introduction

This chapter describes the commands of the `language` command group.

Contents

This chapter covers the following commands:

language config

Select a language.

SYNTAX:

```
language config   [language = <string>]
                  [complete = <{yes | no}>]
```

where:

language	Language code: OSI language code (2 chars) for language. Example: ***en*** for english.	OPTIONAL
complete	Enable translation for expert pages. The default is ***yes***.	OPTIONAL

EXAMPLE:

```
=>language config
language      : en
complete      : no
=>
```

RELATED COMMANDS:

language delete	Delete one or all language archives.
language list	List the available language archives.

language delete

Delete one or all language archives.

SYNTAX:

```
language delete    [file = <string>]
                   [all = <{yes | no}>]
```

where:

file	The filename of the language archive to be removed.	OPTIONAL
all	Remove all languages archives (yes) or not (no). The default is ***no***.	OPTIONAL

RELATED COMMANDS:

language config	Select a language.
language list	List the available language archives.

language list

List the available language archives.

SYNTAX:

```
language list
```

EXAMPLE:

```
=>language list
CODE LANGUAGE            VERSION     FILENAME
 en* English             5.3.0.10.0   <system>
=>
```

The currently selected language is indicated by a “*” next to the OSI language code.

RELATED COMMANDS:

language config	Select a language.
language delete	Delete one or all language archives.

MBUS Commands

Introduction

This chapter describes the commands of the `mbus` command group.

Contents

This chapter covers the following commands:

mbus config

Modify mbus parameters.

SYNTAX:

`mbus config`	`[autoload = <{disabled | enabled}>]`

where:

autoload	Enable or disable autoload object tree at boot time. The default is ***enabled***.	OPTIONAL

mbus client config

Modify client parameters.

SYNTAX:

`mbus client config`	`[writelock = <{enabled | disabled}>]`
	`[wlgetimeout = <number>]`
	`[wlidletimeout = <number>]`
	`[path = <quoted string>]`
	`[type = <idpath | keypath>]`

where:

writelock	Enable or disable mbus writelock. The default is ***enabled***.	OPTIONAL
wlgetimeout	Writelock get timeout in seconds. <forever=-1, *default=nowait=0>	OPTIONAL
wlidletimeout	Writelock idle timeout in seconds. <forever=-1, *default=nowait=30>	OPTIONAL
path	Fully qualified mbus path.	OPTIONAL
type	Path type. The default is ***idpath***.	OPTIONAL

RELATED COMMANDS:

mbus client exec	Execute mbus command.
mbus client register	Register cli client to mbus.
mbus client test	Test functionality invoked.

mbus client exec

Execute mbus command.

SYNTAX:

`mbus client exec`	`cmd = <{addobject | deleteobject | getparamattributes | getparamcount | getparamnames | getparamvalues | getpath | setparamvalue}>`
	`[param = <quoted string>]`
	`[value = <quoted string>]`
	`[gettype = <{object | parameter | path}>]`
	`[depth = <number>]`
	`[processcmd = <{disabled | enabled}>]`
	`[readcommitted = <{disabled | enabled}>]`
	`[onerrorrollback = <{disabled | enabled}>]`

where:

cmd	Mbus command name. Choose between: ▶ ***addobject*** ▶ ***deleteobject*** ▶ ***getparamattributes*** ▶ ***getparamcount*** ▶ ***getparamnames*** ▶ ***getparamvalues*** ▶ ***getpath*** ▶ ***setparamvalue***	REQUIRED
param	Parameter name.	OPTIONAL
value	Parameter value to set.	OPTIONAL
gettype	Get type elements. Choose between: ▶ ***object*** ▶ ***parameter*** ▶ ***path*** The default is ***parameter***.	OPTIONAL
depth	Number of levels to recurse, default=-1 (all).	OPTIONAL
processcmd	Enable or disable the process SET_PARAMVALUE command flag. The default is ***enabled***.	OPTIONAL
readcommitted	Enable or disable the read committed data only (MBUS_CMD_GET_PARAMVALUES) flag. The default is ***enabled***.	OPTIONAL
onerrorrollback	Enable or disable the on error rollback flag. The default is ***enabled***.	OPTIONAL

RELATED COMMANDS:

mbus client config	Modify client parameters.
mbus client register	Register cli client to mbus.
mbus client test	Test functionality invoked.

mbus client register

Register cli client to mbus.

SYNTAX:

`mbus client register`	

RELATED COMMANDS:

mbus client config	Modify client parameters.
mbus client exec	Execute mbus command.
mbus client test	Test functionality invoked.

mbus client test

Test functionality invoked.

SYNTAX:

`mbus client test`	`[path = <quoted string>]`
	`[type = <{idpath | keypath}>]`

where:

path	Fully qualified mbus path.	OPTIONAL
type	Path type. Choose between: - ***idpath*** - ***keypath.*** The default is ***idpath***.	OPTIONAL

EXAMPLE:

```
=>mbus client test
pool name                  bytes cur,max,avail (max.%)      count cur,max,avail      ref
cur,max,avail
--------                   ---------------------------      -------------------      ---
mbus_dynstr                2004,   2004,   4920  ( 40%)      167,   167,   410
0,    0,    -
 - strings buffer          2553,   2563,   8192  ( 31%)
--------                   ---------------------------
Total usage                4557,   4567,   13112 ( 34%)
=>
```

RELATED COMMANDS:

mbus client config	Modify client parameters.
mbus client exec	Execute mbus command.
mbus client register	Register cli client to mbus.

mbus debug stats

Display mbus statistics.

SYNTAX:

`mbus debug stats`	

RELATED COMMANDS:

mbus debug traceconfig	Modify mbus trace settings.

mbus debug traceconfig

Modify mbus trace settings.

SYNTAX:

`mbus debug traceconfig`	`[level = <number{0-4}>]`

where:

level	A number between 0 and 4. Represents the mbus trace level.	OPTIONAL

RELATED COMMANDS:

mbus debug stats	Display mbus statistics.

mbus listobjects

Display the object instances.

SYNTAX:

`mbus listobjects`	`[path = <quoted string>]`
	`[type = <{idpath | keypath}>]`
	`[output = <{list | tree}>]`
	`[expand = <{disabled | enabled}>]`

where:

path	Fully qualified mbus path to list.	OPTIONAL
type	Path type. Choose between: - ***idpath*** - ***keypath***. The default is ***idpath***.	OPTIONAL
output	List output type. Choose between: - ***list*** - ***tree***. The default is ***tree***.	OPTIONAL
expand	Enable or disable details. The default is ***disabled***.	OPTIONAL

RELATED COMMANDS:

mbus listtypes	Display the registered objecttypes.

mbus listtypes

Display the registered objecttypes.

SYNTAX:

`mbus listtypes`	`[path = <quoted string>]`
	`[expand = <{disabled | enabled}>]`

where:

path	Fully qualified mbus path to list.	OPTIONAL
expand	Enable or disable details. The default is ***disabled***.	OPTIONAL

EXAMPLE:

```
=>mbus listtypes
- root
  + InternetGatewayDevice
    * DeviceInfo
    * Layer3Forwarding
    * LANDevice
      - WLANConfiguration
        + WEPKey
        + PreSharedKey
      -
    * WANDevice
      - WANCommonInterfaceConfig
      - WANDSLInterfaceConfig
      - WANConnectionDevice
        + WANDSLLinkConfig
        + WANIPConnection
          * PortMapping
        + WANPPPConnection
          * PortMapping
    * Services
    * ManagementServer
=>
```

RELATED COMMANDS:

mbus listobjects	Display the object instances.

mbus loadobjects

Load object instances of registered objecttypes.

SYNTAX:

`mbus loadobjects`	`[path = <quoted string>]`
	`[type = <{idpath | keypath}>]`

where:

path	Fully qualified mbus path.	OPTIONAL
type	Path type. Choose between: ▸ ***idpath*** ▸ ***keypath***. The default is ***idpath***.	OPTIONAL

RELATED COMMANDS:

mbus unloadobjects	Unload object instances.

mbus unloadobjects

Unload object instances.

SYNTAX:

```
mbus unloadobjects    [path = <quoted string>]
                      [type = <{idpath | keypath}>]
```

where:

path	Fully qualified mbus path.	OPTIONAL
type	Path type. Choose between: ▸ ***idpath*** ▸ ***keypath***. The default is ***idpath***.	OPTIONAL

RELATED COMMANDS:

mbus loadobjects	Load object instances of registered objecttypes.

MEMM Commands

Introduction

This chapter describes the commands of the `memm` command group.

Contents

This chapter covers the following commands:

memm debug lock traceconfig

Modify lock trace settings.

SYNTAX:

`memm debug lock traceconfig`	`[level = <number{0-4}>]`
	`[name = <string>]`

where:

level	A number between 0 and 4. Represents the memm trace level.	OPTIONAL
name	Application name filter for lock traces (empty displays all lock traces).	OPTIONAL

memm debug traceconfig

Modify memm trace settings.

SYNTAX:

`memm debug traceconfig`	`[level = <number{0-4}>]`

where:

level	A number between 0 and 4. Represents the memm trace level.	OPTIONAL

memm listobjects

Display objects.

SYNTAX:

`memm listobjects`	`[name = <quoted string>]`

where:

name	Select typename(s) to list (supports partial typename).	OPTIONAL

memm stats

Display memm statistics.

SYNTAX:

memm stats	[name = <quoted string>]

where:

name	Select typename(s) to list (supports partial typename).	OPTIONAL

EXAMPLE:

```
=>memm stats
pool name                     bytes cur,max,avail  (max.%)   count cur,max,avail  ref cur,max,avail
---------                     ----------------------------   -------------------  -----------------
memm_pooldesc                   1196,  1196,  1300   (92%)     23,    23,    25    obj:     0,  255
dynstr_pool                       72,    72,   120   (60%)      3,     3,     5      0,    0,    -
mbus_llist                      2904,  2904,  4920   (59%)    242,   242,   410      0,    0,    -
mbus_dynstr                     2928,  2964,  4920   (60%)    244,   247,   410      0,    0,    -
 - strings buffer               3545,  3563,  8192   (43%)
mbus_client                       12,    12,   120   (10%)      1,     1,    10      0,    0,    -
mbus_cmddata                       0,    88,  3520   ( 2%)      0,     2,    80      0,    0,    -
mbus_objecttype                  744,   744,   960   (77%)     31,    31,    40      0,    0,    -
mbus_paramtype                  5908,  5908,  7000   (84%)    211,   211,   250      0,    0,    -
mbus_object                       28,    28,  1960   ( 1%)      1,     1,    70      0,    0,    -
mbus_objectindex                   0,     0,   840   ( 0%)      0,     0,    70      0,    0,    -
upnp_dynstr                       36,    60,   600   (10%)      3,     5,    50      0,    0,    -
 -strings buffer                 138,   151,  2048   ( 7%)
upnp_handles                     332,   332,   996   (33%)      1,     1,     3      0,    0,    -
upnp_devices                     816,   816,  8160   (10%)      3,     3,    30      0,    0,    -
upnp_services                   2560,  2560, 19200   (13%)      4,     4,    30      0,    0,    -
upnp_subscriptions                 0,     0, 30400   ( 0%)      0,     0,    50      0,    0,    -
upnp_firstdeviceevents             0,     0,  4000   ( 0%)      0,     0,    50      0,    0,    -
mbus_cliclient                     0,     0,   240   ( 0%)      0,     0,     5      0,    0,    -
cwmp_elem_pool                     0,     0,   560   ( 0%)      0,     0,    20      0,    0,    -
cwmp_attr_pool                     0,     0,   400   ( 0%)      0,     0,    20      0,    0,    -
cwmp_llist_pool                    0,    24,   480   ( 5%)      0,     2,    40      0,    0,    -
cwmp_dynstr_pool                   0,     0,   240   ( 0%)      0,     0,    20      0,    0,    -
 -strings buffer                   0,     0,  8192   ( 0%)
cwmp_event_pool                    0,     0,    64   ( 0%)      0,     0,     4      0,    0,    -
cwmp_cmddata_pool                  0,     0,  1320   ( 0%)      0,     0,    30      0,    0,    -
---------                     ----------------------------
Total usage                    21219, 21422,110752   (19%)
=>
```

EXAMPLE:

```
=>memm stats
pool name                      bytes cur,max,avail (max.%)    count cur,max,avail    ref
cur,max,avail
-------------                  ---------------------------    -------------------    ---
memm_pooldesc                  1196,   1196,   1300  ( 92%)        23,   23,   25      ob
j:   0,   255
dynstr_pool                      72,     72,    120  ( 60%)         3,    3,    5
0,   0,    -
mbus_llist                     2460,   2532,   4920  ( 51%)       205,  211,  410
0,   0,    -
mbus_dynstr                    2316,   2424,   4920  ( 49%)       193,  202,  410
0,   0,    -
 - strings buffer              2761,   2839,   8192  ( 34%)
mbus_client                      12,     12,    120  ( 10%)         1,    1,   10
0,   0,    -
mbus_cmddata                      0,     88,   3520  (  2%)         0,    2,   80
0,   0,    -
mbus_objecttype                 480,    480,    960  ( 50%)        20,   20,   40
0,   0,    -
mbus_paramtype                 3976,   3976,   7000  ( 56%)       142,  142,  250
0,   0,    -
mbus_object                     840,    840,   1960  ( 42%)        30,   30,   70
0,   0,    -
mbus_objectindex                168,    168,    840  ( 20%)        14,   14,   70
0,   0,    -
upnp_dynstr                      36,     72,    600  ( 12%)         3,    6,   50
0,   0,    -
 - strings buffer               132,    152,   2048  (  7%)        14,   14,   70
upnp_handles                    332,    332,    996  ( 33%)         1,    1,    3
0,   0,    -
upnp_devices                    816,    816,   8160  ( 10%)         3,    3,   30
0,   0,    -
upnp_services                  2560,   2560,  19200  ( 13%)         4,    4,   30
0,   0,    -
upnp_subscriptions             1216,   2432,  30400  (  8%)         2,    4,   50
0,   0,    -
upnp_firstdeviceevents            0,    320,   4000  (  8%)         0,    4,   50
0,   0,    -
mbus_cliclient                    0,      0,    240  (  0%)         0,    0,    5
0,   0,    -
cwmp_elem_pool                    0,      0,    560  (  0%)         0,    0,   20
0,   0,    -
cwmp_attr_pool                    0,      0,    400  (  0%)         0,    0,   20
0,   0,    -
cwmp_llist_pool                   0,     24,    480  (  5%)         0,    2,   40
0,   0,    -
cwmp_dynstr_pool                  0,      0,    240  (  0%)         0,    0,   20
0,   0,    -
 - strings buffer                 0,      0,   8192  (  0%)
cwmp_event_pool                   0,      0,     64  (  0%)         0,    0,    4
0,   0,    -
cwmp_cmddata_pool                 0,      0,   13202  (  0%)          0,    0,   30
0,   0,    -
-------------                  ---------------------------
Total usage                     19373,  21335,110752  ( 19%)
=>
```

MLP Commands

Introduction

This chapter describes the commands of the `mlp` command group.

Contents

This chapter covers the following commands:

mlp flush

Flush all the Multi-Level access Policies (MLP) structures.

SYNTAX:

```
mlp flush
```

mlp import

Import all the scores.

SYNTAX:

```
mlp import  [trace = <{disabled | enabled | full}>]
```

where:

trace	Select the import trace level. Choose between: - disabled - enabled - full. The default is ***disabled***.	OPTIONAL

RELATED COMMANDS:

mlp debug export	Export all the scores.

mlp debug export

Export all the scores.

SYNTAX:

```
mlp debug export
```

RELATED COMMANDS:

mlp import	Import all the scores.

mlp debug stats

Display MLP statistics.

SYNTAX:

```
mlp debug stats
```

EXAMPLE:

```
=>mlp debug stats
 Roles (cur/free/max)      : 8/7/15
 Privileges (cur/free/max) : 35/25/60
 ListItems (cur/free/max)  : 31/119/150

=>
```

mlp debug traceconfig

Modify the MLP trace settings.

SYNTAX:

```
mlp debug traceconfig  [trace = <{disabled | enabled | full}>]
```

where:

trace	Select the trace level. Choose between: ▸ disabled ▸ enabled ▸ full. The default is ***disabled***.	OPTIONAL

EXAMPLE:

```
=>mlp debug traceconfig
mlp trace: disabled
=>
```

mlp privilege add

Add a privilege.

SYNTAX:

```
mlp privilege add  name = <quoted string>
                   type = <{access | service}>
                   [descr = <quoted string>]
```

where:

name	The name of the new privilege. **Note** The maximum number of privileges is 60.	REQUIRED
type	Select the privilege type. Choose between: - ***access***: the privilege is an access privilege. - ***service***: the privilege is a service privilege.	REQUIRED
descr	A description of the privilege. **Note** The maximum length is 63 characters.	OPTIONAL

EXAMPLE:

```
=>mlp privilege list type=access
Privilege (type) Description
----------------------------
anyaccess (access) All access privileges granted
AP1 (access) LAN_Local_all
AP2 (access) LAN_Local with all secured channels
AP3 (access) LAN_Local with all channels & access to sensitive files

...

AP15 (access) WAN from all channels
AP16 (access) LAN from HTTP/HTTPs

=>mlp privilege add name=myPrivilege type=access descr="My access privilege"
=>mlp privilege list type=access
Privilege (type) Description
----------------------------
anyaccess (access) All access privileges granted
AP1 (access) LAN_Local_all
AP2 (access) LAN_Local with all secured channels
AP3 (access) LAN_Local with all channels & access to sensitive files

...

AP15 (access) WAN from all channels
AP16 (access) LAN from HTTP/HTTPs
myPrivilege (access) My access privilege

=>
```

RELATED COMMANDS:

mlp privilege delete	Delete a privilege.
mlp privilege list	Display the privileges.

mlp privilege addzone

Add a zone to a privilege.

Only one zone can be added at a time to a privilege. If multiple zones need to be added, the command **:mlp privilege addzone** must be executed for each zone to be added.

SYNTAX:

```
mlp privilege addzone    name = <string>
                         zone = <string>
```

where:

name	The name of the privilege in which a zone must be added.	REQUIRED
zone	The name of the new zone.	REQUIRED

EXAMPLE:

```
=>mlp privilege list type=access name=myPrivilege verbose=all
myPrivilege (access) My access privilege

=>mlp privilege addzone name=myPrivilege zone=channel_http
=>mlp privilege list type=access name=myPrivilege verbose=all
myPrivilege (access) My access privilege
  channel_http

=>
```

RELATED COMMANDS:

mlp privilege removezone	Remove a zone from a privilege.

mlp privilege config

Modify a privilege.

SYNTAX:

```
mlp privilege config     name = <string>
                         [descr = <quoted string>]
                         [score = <{hex-word}[:{hex-word}] ex: 'a12:c30f'>]
```

where:

name	The name of the privilege to be modified.	REQUIRED
descr	Set the privilege description. **Note** The maximum length is 63 characters.	OPTIONAL
score	Set the score of the privilege. **Note** This is a hexadecimal value, for example “a12:c30f”.	OPTIONAL

EXAMPLE:

```
=>mlp privilege config name=myPrivilege descr="My test privilege" score=a12:def4
=>mlp privilege list verbose=all
anyaccess (access) All access privileges granted
   unsecure_connection, channel_ftp, channel_telnet, channel_http,
   channel_mdap, channel_serial, origin_lan, origin_wan, origin_local

anyservice (service) All service privileges granted
...

AP15 (access) WAN from all channels
   unsecure_connection, channel_ftp, channel_telnet, channel_http,
   channel_mdap, channel_serial, origin_wan

AP16 (access) LAN from HTTP/HTTPs
   unsecure_connection, channel_http, origin_lan

myPrivilege (service) My test privilege
   r_lan, r_fs_view, r_fs_retrieve, r_rtg, r_fwdg, r_frwl, r_ipsec_norm,
   r_ipsec_adv, r_certificates, r_local, r_qos, and_lan, and_local, cli,
   ftp
=>
```

mlp privilege delete

Delete a privilege.

SYNTAX:

```
mlp privilege delete     name = <string>
```

where:

name	The name of the privilege to be deleted.	REQUIRED

EXAMPLE:

```
=>mlp privilege list type=access
Privilege (type) Description
----------------------------
anyaccess (access) All access privileges granted
AP1 (access) LAN _Local_all
AP2 (access) LAN_Local with all secured channels
AP3 (access) LAN_Local with all channels & access to sensitive files
AP4 (access) LAN_Local with all secured channels & access to sensitive files
AP5 (access) WAN from a secure HTTP
AP6 (access) WAN from a secure HTTP & access to sensitive files
AP7 (access) LAN from all channels except telnet
AP8 (access) LAN from all secured channels except telnet
AP9 (access) LAN from all channels except telnet & access to sensitive file
AP10 (access) LAN access to sensitive file & secured channels except telnet
AP11 (access) All origins_noHTTP
AP12 (access) All origins_from all secured channels no http
AP13 (access) All origins_noHTTP & access to sensitive files
AP14 (access) All origins_secured channels &access to sensitive files no http
AP15 (access) WAN from all channels
AP16 (access) LAN from HTTP/HTTPs
myPrivilege (access) My access privilege

=>mlp privilege delete name=myPrivilege
=>mlp privilege list type=access
Privilege (type) Description
----------------------------
anyaccess (access) All access privileges granted
AP1 (access) LAN _Local_all
AP2 (access) LAN_Local with all secured channels
AP3 (access) LAN_Local with all channels & access to sensitive files

...

AP13 (access) All origins_noHTTP & access to sensitive files
AP14 (access) All origins_secured channels &access to sensitive files no http
AP15 (access) WAN from all channels
AP16 (access) LAN from HTTP/HTTPs

=>
```

RELATED COMMANDS:

mlp privilege delete	Add a privilege.
mlp privilege list	Display the privileges.

mlp privilege list

Display the privileges.

SYNTAX:

```
mlp privilege list    [name = <string>]
                      [type = <{access | service}>]
                      [verbose = <{minimal | medium | all}>]
```

where:

name	The name of the privilege to be listed. **Note** If not specified, all the privileges will be shown.	OPTIONAL
type	Select the privilege type to be shown. Choose between: - ***access***: only the access privileges will be shown - ***service***: only the service privileges will be shown. **Note** If not specified, all the privilege types will be shown.	OPTIONAL
verbose	Limit the output list. Choose between: - minimal - medium - all. The default is ***minimal***.	OPTIONAL

EXAMPLE:

```
=>mlp privilege list type=service
Privilege (type) Description
----------------------------
anyservice (service) All service privileges granted
SP1 (service) Limited_Read
SP2 (service) detailed_Read
SP3 (service) Write_to_LAN
SP4 (service) Write_FWD_RT_normal_FW_cfgs
SP5 (service) cooperative_cfgs
SP6 (service) Remote Configurations
SP7 (service) Advanced sink & source FW
SP8 (service) Write_to_U_Connection
SP9 (service) Write_to_Local
SP10 (service) Simple_network_debugging
SP11 (service) Advance_Network_debugging
SP12 (service) User_admin
SP13 (service) MLP_Admin
SP14 (service) Backup & Restore
SP15 (service) CLI mngt Interface only
SP16 (service) CGI mngt Interface only
SP17 (service) FTP mngt Interface only
=>mlp privilege list name=SP5 verbose=all
SP5 (service) cooperative_cfgs
  r_ipsec_norm, r_ipsec_adv, r_certificates, w_frwl_norm, w_frwl_adv,
  w_ipsec, w_certificates
=>
```

RELATED COMMANDS:

mlp privilege delete	Add a privilege.
mlp privilege delete	Delete a privilege.

mlp privilege removezone

Remove a zone from a privilege.

Only one zone can be removed at a time from a privilege. If multiple zones need to be removed, the command **:mlp privilege removezone** must be executed for each zone to be removed.

SYNTAX:

```
mlp privilege removezone    name = <string>
                            zone = <string>
```

where:

name	The name of the privilege in which a zone must be removed.	REQUIRED
zone	The name of the zone to be removed.	REQUIRED

EXAMPLE:

```
=>mlp privilege list name=myPrivilege verbose=all
myPrivilege (access) My access privilege
  channel_http, channel_serial

=>mlp privilege removezone name=myPrivilege zone=channel_serial
=>mlp privilege list name=myPrivilege verbose=all
myPrivilege (access) My access privilege
  channel_http

=>
```

RELATED COMMANDS:

mlp privilege addzone	Add a zone to a privilege.

mlp role add

Add a role.

SYNTAX:

```
mlp role add  name = <quoted string>
              parent = <string>
              [descr = <quoted string>]
```

where:

name	The name of the new role. **Note** The maximum number of roles is 15.	REQUIRED
parent	The name of the parent role.	REQUIRED
descr	The role description. **Note** The maximum length is 63 characters.	OPTIONAL

EXAMPLE:

```
=>mlp role list
Role (parent) Description
-------------------------
root (-) The superuser
SuperUser (root) Any service and any access from LAN/WAN/LOCAL
TechnicalSupport (SuperUser) Any service and any channels from WAN
Administrator (TechnicalSupport) Any service and any access from LAN/Local origin only
PowerUser (Administrator) GUI(Service/overview page)via http/https from LAN origin
User (PowerUser) GUI(Overview pages, remote assistance) via HTTP/HTTPS from LAN
LAN_Admin (Administrator) Only LAN related configurations from any Channel/Origin
WAN_Admin (Administrator) Only WAN related configurations from any Channels/Origin

=>mlp role create name=myRole parent=User descr="My user access"
=>mlp role list
Role (parent) Description
-------------------------
root (-) The superuser
SuperUser (root) Any service and any access from LAN/WAN/LOCAL
TechnicalSupport (SuperUser) Any service and any channels from WAN
Administrator (TechnicalSupport) Any service and any access from LAN/Local origin only
PowerUser (Administrator) GUI(Service/overview page)via http/https from LAN origin
User (PowerUser) GUI(Overview pages, remote assistance) via HTTP/HTTPS from LAN
LAN_Admin (Administrator) Only LAN related configurations from any Channel/Origin
WAN_Admin (Administrator) Only WAN related configurations from any Channels/Origin
myRole (User) My user access

=>
```

RELATED COMMANDS:

mlp role delete	Delete a role.
mlp role list	Display the roles.

mlp role addpriv

Add a privilege to a role.

SYNTAX:

```
mlp role addpriv    name = <string>
                    access = <string>
                    service = <string>
```

where:

name	The name of the role.	REQUIRED
access	The name of the access privilege to be added.	REQUIRED
service	The name of the service privilege to be added.	REQUIRED

EXAMPLE:

```
=>mlp role list name=myRole verbose=all
myRole (User) My user access


=>mlp role addpriv name=myRole access=myPrivilege service=SP7
=>mlp role list name=myRole verbose=all
myRole (User) My user access
  myPrivilege & SP7


=>
```

RELATED COMMANDS:

mlp role removepriv	Remove a privilege from a role.

mlp role config

Modify the role.

SYNTAX:

```
mlp role config    name = <string>
                   [parent = <string>]
                   [descr = <quoted string>]
```

where:

name	The name of the role to be configured.	REQUIRED
parent	The name of the parent role.	OPTIONAL
descr	The role description. **Note** The maximum length is 63 characters.	OPTIONAL

EXAMPLE:

```
=>mlp role list name=myRole verbose=all
myRole (User) My user access
  myPrivilege & SP7


=>mlp role config name=myRole parent=Guest descr="My user access"
=>mlp role list name=myRole verbose=all
myRole (Guest) My user access
  myPrivilege & SP7


=>
```

mlp role delete

Delete a role.

SYNTAX:

```
mlp role delete    name = <string>
```

where:

name	The name of the role to be deleted.	REQUIRED

EXAMPLE:

```
=>mlp role list
Role (parent) Description
-------------------------
root (-) The superuser
SuperUser (root) Any service and any access from LAN/WAN/LOCAL
TechnicalSupport (SuperUser) Any service and any channels from WAN
Administrator (TechnicalSupport) Any service and any access from LAN/Local origin only
PowerUser (Administrator) GUI(Service/overview page)via http/https from LAN origin
User (PowerUser) GUI(Overview pages, remote assistance) via HTTP/HTTPS from LAN
LAN_Admin (Administrator) Only LAN related configurations from any Channel/Origin
WAN_Admin (Administrator) Only WAN related configurations from any Channels/Origin
myRole (Guest) My user access

=>mlp role delete name=myRole
=>mlp role list
Role (parent) Description
-------------------------
root (-) The superuser
SuperUser (root) Any service and any access from LAN/WAN/LOCAL
TechnicalSupport (SuperUser) Any service and any channels from WAN
Administrator (TechnicalSupport) Any service and any access from LAN/Local origin only
PowerUser (Administrator) GUI(Service/overview page)via http/https from LAN origin
User (PowerUser) GUI(Overview pages, remote assistance) via HTTP/HTTPS from LAN
LAN_Admin (Administrator) Only LAN related configurations from any Channel/Origin
WAN_Admin (Administrator) Only WAN related configurations from any Channels/Origin

=>
```

RELATED COMMANDS:

mlp role delete	Add a role.
mlp role list	Display the roles.

mlp role list

Display the roles.

SYNTAX:

```
mlp role list    [name = <string>]
                 [verbose = <{minimal | medium | all}>]
```

where:

name	The name of the role to be listed. **Note** If not specified, all the roles will be listed.	OPTIONAL
verbose	Limit the output list. Choose between: - minimal - medium - all. The default is ***minimal***.	OPTIONAL

EXAMPLE:

```
=>mlp role list
Role (parent) Description
-------------------------
root (-) The superuser
SuperUser (root) Any service and any access from LAN/WAN/LOCAL
TechnicalSupport (SuperUser) Any service and any channels from WAN
Administrator (TechnicalSupport) Any service and any access from LAN/Local origin only
PowerUser (Administrator) GUI(Service/overview page)via http/https from LAN origin
User (PowerUser) GUI(Overview pages, remote assistance) via HTTP/HTTPS from LAN
LAN_Admin (Administrator) Only LAN related configurations from any Channel/Origin
WAN_Admin (Administrator) Only WAN related configurations from any Channels/Origin
myRole (Guest) My user access

=>mlp role list name=PowerUser verbose=all
PowerUser (Administrator) GUI(Service/overview page)via http/https from LAN origin
  AP16 & SP1
  AP16 & SP2
  AP16 & SP10
  AP16 & SP16
  AP16 & SP8
=>
```

RELATED COMMANDS:

mlp role delete	Add a role.
mlp role delete	Delete a role.

mlp role removepriv

Remove a privilege from a role.

SYNTAX:

```
mlp role removepriv    name = <string>
                       access = <string>
                       [service = <string>]
```

where:

name	The name of the role.	REQUIRED
access	The name of the access privilege to be deleted.	REQUIRED
service	The name of the service privilege to be deleted.	OPTIONAL

EXAMPLE:

```
=>mlp role list name=myRole verbose=all
myRole (Guest) My user access
  myPrivilege & SP7


=>mlp role removepriv name=myRole access=myPrivilege
=>mlp role list name=myRole verbose=all
myRole (Guest) My user access


=>
```

RELATED COMMANDS:

mlp role addpriv	Add a privilege to a role.

NAT Commands

Introduction

This chapter describes the commands of the `nat` command group.

Contents

This chapter covers the following commands:

nat config

Display/modify global NAT configuration options.

SYNTAX:

```
nat config   [trace = <{disabled | enabled}>]
```

where:

trace	Enable or disable traces. The default is ***disabled***.	REQUIRED

EXAMPLE:

```
=>nat config
NAT traces : disabled
=>nat config trace=enabled
=>nat config
NAT traces : enabled
=>
```

nat flush

Flush the current NAT configuration.

SYNTAX:

```
nat flush
```

nat ifconfig

Modify address translation on an IP interface.

SYNTAX:

```
nat ifconfig  intf = <string>
              translation = <{disabled | enabled | transparent}>
```

where:

intf	The IP interface name.	REQUIRED
translation	Enable or disable address translation. Choose between: ▶ ***disabled***: Address translation is disabled. ▶ ***enabled***: Address translation is enabled. ▶ ***transparent***: An inside address is translated into the same outside IP address. In fact, no translation happens and the IP packets passing through the SpeedTouch™ remain untouched. The default is ***disabled***.	REQUIRED

EXAMPLE:

```
=>nat iflist
Interface       NAT
loop            disabled
myPPP_ppp       disabled
eth0            transparent
=>nat ifconfig intf=myPPP_ppp translation=enabled
=>nat iflist
Interface       NAT
loop            disabled
myPPP_ppp       enabled
eth0            transparent
=>
```

RELATED COMMANDS:

nat iflist	Display the address translation configuration on all the interfaces.

nat iflist

Display the address translation configuration on all the interfaces.

SYNTAX:

```
nat iflist
```

EXAMPLE:

```
=>nat iflist
Interface       NAT
loop            disabled
Internet        enabled
RtPPPoE_ppp     enabled
LocalNetwork    transparent
=>
```

RELATED COMMANDS:

nat ifconfig	Modify address translation on an IP interface.

nat mapadd

Add an address mapping to a Network Address Translation (NAT) enabled interface.

SYNTAX:

```
nat mapadd  intf = <string>
            [type = <{napt | nat}>]
            [outside_addr = <ip-range>]
            [inside_addr = <ip-range>]
            [access_list = <ip-range>]
            [foreign_addr = <ip-range>]
            [protocol = <{supported IP protocol} or number>]
            [outside_port = <port-range>]
            [inside_port = <port-range>]
            [mode = <{auto | inbound | outbound}>]
```

where:

intf	The IP interface name. **Note** The specified interface must be an existing NAT enabled interface.	REQUIRED
type	The type of NAT map to be used. Choose between: - ***napt***: The map is a Network Address Port Translation (NAPT) map or a port-shifting NAT map. - ***nat***: The map is a basic NAT map or a two-way NAT map.	OPTIONAL
outside_addr	The outside (typically public) IP address. - Inbound: This map will only apply if the destination IP address is part of the outside address(es). - Outbound: Represents the address(es) to be used as source address after translation. Allowed values are: - An IP address (A.B.C.D or A.D, meaning A.0.0.D). - A range of IP addresses (A.B.C.[D-E]) (only for NAT). - An IP subnet (A.B.C.D/M) (only for NAT).	REQUIRED for NAT maps and NAPT maps. OPTIONAL for port-shifting maps.
inside_addr	The inside (typically private) IP address. - Inbound: Represents the address(es) to be used as destination address after translation. - Outbound: This map will only apply if the source IP address is part of the inside address(es). Allowed values are: - An IP address (A.B.C.D or A.D, meaning A.0.0.D). - A range of IP addresses (A.B.C.[D-E]) (only for NAT). - An IP subnet (A.B.C.D/M (only for NAT)). The default is ““ (unmapped). **Note** If specified, the number of inside addresses must be equal to the number of outside addresses.	OPTIONAL for NAT maps and NAPT maps. REQUIRED for port-shifting maps.

access_list	The range of inside addresses to which the mapping is restricted. This parameter is used for outbound traffic only. Represents the list of inside IP addresses (LAN devices) allowed to make use of this map. Allowed values are: ▸ An IP address (A.B.C.D or A.D, meaning A.0.0.D). ▸ A range of IP addresses (A.B.C.[D-E]). ▸ An IP subnet (A.B.C.D/M). ▸ * (all addresses). The default is the inside_addr.	OPTIONAL
foreign_addr	The range of destination addresses to which the mapping is restricted. This parameter is used as filter for inbound/outbound traffic. ▸ Inbound: This map only applies if the source IP address is part of the foreign address(es). ▸ Outbound: This map only applies if the destination IP address is part of the foreign address(es). Allowed values are: ▸ An IP address (A.B.C.D or A.D, meaning A.0.0.D). ▸ A range of IP addresses (A.B.C.[D-E]). ▸ An IP subnet (A.B.C.D/M). ▸ * (all addresses). The default is * (meaning all addresses).	OPTIONAL
protocol	The IP protocol to be used as filter for inbound/outbound traffic. The NAT map only applies if the protocol of the IP packet matches the map protocol. Select an IP protocol (see “ Supported IP Protocols” on page 612) or, alternatively, type the protocol number. The default is ***0*** (meaning any protocol).	OPTIONAL
outside_port	The outside port number or range (only for maps of type ***napt***). ▸ For a NAPT map: Represents the range of TCP/UDP ports to be used as dynamic port range during the NAPT process. ▸ For a port-shifting map: Represents the source port(s) to be translated (shifted) into ***inside_port***. Allowed values are: ▸ TCP/UDP port range [P-Q] (with Q > P) ▸ TCP/UDP port number (only for port-shifting maps).	OPTIONAL for NAPT map. REQUIRED for port-shifting map.
inside_port	The inside port number or range (only for maps of type ***napt***). If this parameter is specified for a map of type ***napt***, then this map is a port-shifting map. Represents the target TCP/UDP ports to which the traffic has to be shifted. Allowed values are: ▸ TCP/UDP port range [P-Q] (with Q > P) ▸ TCP/UDP port number (only for port-shifting maps). **Note** The size of ***inside_port*** must be identical to the size of ***outside_port***.	REQUIRED for port-shifting map

mode	The mode to create the portmap. Choose between: - auto - inbound - outbound. The standard is ***auto***.	OPTIONAL

EXAMPLE:

```
=>nat maplist
Idx Type Interface       Outside Address                 Inside Address       Use
  1 NAPT eth0            any:80                          127.0.0.1:8080       0
  2 NAPT eth0            any:1080                        127.0.0.1:8080       0
  3 NAPT eth0            any:8080                        127.0.0.1:8080       0
=>nat mapadd intf=myPPP_ppp type=napt outside_addr=100.100.100.1 access_list=10.0.0.0/24
=>nat maplist
Idx Type Interface       Outside Address                 Inside Address       Use
  1 NAPT myPPP_ppp       100.100.100.1                   unmapped             0
  1 NAPT eth0            any:80                          127.0.0.1:8080       0
  2 NAPT eth0            any:1080                        127.0.0.1:8080       0
  3 NAPT eth0            any:8080                        127.0.0.1:8080       0
=>maplist intf=myPPP_ppp expand=enabled
Idx Type Interface       Outside Address                 Inside Address       Use
  1 NAPT myPPP_ppp       100.100.100.1                   unmapped             0
                         Access List.................... 10.0.0.0/24
                         Foreign Address................ any
                         Protocol....................... any
                         Flags.......................... Static
                         Description.................... Outbound NAPT without defserver
=>
```

RELATED COMMANDS:

nat mapdelete	Delete an address mapping from a NAT enabled interface.
nat maplist	Display the address mapping for a NAT enabled interface.

nat mapdelete

Delete an address mapping from a NAT enabled interface.

SYNTAX:

```
nat mapdelete   intf = <string>
                index = <number>
```

where:

intf	The IP interface name.	REQUIRED
index	The map index. **Tip** Use the command **`:nat maplist`** to obtain a list of the mapindexes.	REQUIRED

EXAMPLE:

```
=>nat maplist
Idx Type Interface       Outside Address                Inside Address       Use
  1 NAPT myPPP_ppp       100.100.100.1                  unmapped             0
  1 NAPT eth0            any:80                         127.0.0.1:8080       0
  2 NAPT eth0            any:1080                       127.0.0.1:8080       0
  3 NAPT eth0            any:8080                       127.0.0.1:8080       0
=>nat mapdelete intf=myPPP_ppp index=1
=>nat maplist
Idx Type Interface       Outside Address                Inside Address       Use
  1 NAPT eth0            any:80                         127.0.0.1:8080       0
  2 NAPT eth0            any:1080                       127.0.0.1:8080       0
  3 NAPT eth0            any:8080                       127.0.0.1:8080       0
=>
```

RELATED COMMANDS:

nat mapadd	Add an address mapping to a Network Address Translation (NAT) enabled interface.
nat maplist	Display the address mapping for a NAT enabled interface.

nat maplist

Display the address mapping for a NAT enabled interface.

SYNTAX:

```
nat maplist   [intf = <string>]
              [expand = <{disabled | enabled}>]
```

where:

intf	The IP interface name. **Note** If not specified, the address mapping for all the NAT enabled interfaces will be shown.	OPTIONAL
expand	Enable or disable expanded listing. The default is ***disabled***.	OPTIONAL

EXAMPLE:

```
=>nat maplist
Idx Type Interface       Outside Address               Inside Address       Use
  1 NAPT myPPP_ppp       100.100.100.1                 unmapped             0
  1 NAPT eth0            any:80                        127.0.0.1:8080       0
  2 NAPT eth0            any:1080                      127.0.0.1:8080       0
  3 NAPT eth0            any:8080                      127.0.0.1:8080       0
=>maplist intf=myPPP_ppp expand=enabled
Idx Type Interface       Outside Address               Inside Address       Use
  1 NAPT myPPP_ppp       100.100.100.1                 unmapped             0
                         Access List.................. 10.0.0.0/24
                         Foreign Address.............. any
                         Protocol..................... any
                         Flags........................ Static
                         Description.................. Outbound NAPT without defserver
=>
```

RELATED COMMANDS:

nat mapadd	Add an address mapping to a Network Address Translation (NAT) enabled interface.
nat mapdelete	Delete an address mapping from a NAT enabled interface.

nat tmpladd

Add an address mapping template.

SYNTAX:

```
nat tmpladd  [intf = <string>]
             [group = <{wan|local|lan|tunnel|dmz|guest} or number>]
             [timeout = <number{0-65535}>]
             [type = <{napt | nat}>]
             outside_addr = <ip-range>
             [inside_addr = <ip-range>]
             [access_list = <ip-range>]
             [foreign_addr = <ip-range>]
             [protocol = <{supported IP protocol} or number>]
             [outside_port = <port-range>]
             [inside_port = <port-range>]
             [mode = <{auto | inbound | outbound}>]
```

where:

intf	The IP interface name.	OPTIONAL
group	The IP interface group scope for this template. Choose between: ▶ wan ▶ local ▶ lan ▶ tunnel ▶ dmz ▶ guest. **Note** If an interface has been defined with the parameter ***intf***, then the setting for this parameter is ignored.	OPTIONAL
timeout	A number between 0 and 6553 (seconds). Represents the lifetime for this template.	OPTIONAL
type	The type of NAT map to be used. Choose between: ▶ ***napt***: The map is a NAPT map or a port-shifting NAT map. ▶ ***nat***: The map is a basic NAT map or a two-way NAT map.	OPTIONAL
outside_addr	The outside (typically public) IP address. ▶ Inbound: This map will only apply if the destination IP address is part of the outside address(es). ▶ Outbound: Represents the address(es) to be used as source address after translation. Allowed values are: ▶ An IP address (A.B.C.D or A.D, meaning A.0.0.D). ▶ A range of IP addresses (A.B.C.[D-E]) (only for NAT). ▶ An IP subnet (A.B.C.D/M) (only for NAT).	REQUIRED for NAT maps and NAPT maps. OPTIONAL for port-shifting maps.

inside_addr	The inside (typically private) IP address. - Inbound: Represents the address(es) to be used as destination address after translation. - Outbound: This map will only apply if the source IP address is part of the inside address(es). Allowed values are: - An IP address (A.B.C.D or A.D, meaning A.0.0.D). - A range of IP addresses (A.B.C.[D-E]) (only for NAT). - An IP subnet (A.B.C.D/M (only for NAT)). Default value is *“”* (meaning unmapped). **Note** If specified, the number of inside addresses must be equal to the number of outside addresses.	OPTIONAL for NAT maps and NAPT maps. REQUIRED for port-shifting maps.
access_list	The range of inside addresses to which the mapping is restricted. This parameter is used for outbound traffic only. Represents the list of inside IP addresses (LAN devices) allowed to make use of this map. Allowed values are: - An IP address (A.B.C.D or A.D, meaning A.0.0.D). - A range of IP addresses (A.B.C.[D-E]). - An IP subnet (A.B.C.D/M). - * (all addresses). The default is the inside_addr.	OPTIONAL
foreign_addr	The range of destination addresses to which the mapping is restricted. This parameter is used as filter for inbound/outbound traffic. - Inbound: This map only applies if the source IP address is part of the foreign address(es). - Outbound: This map only applies if the destination IP address is part of the foreign address(es). Allowed values are: - An IP address (A.B.C.D or A.D, meaning A.0.0.D). - A range of IP addresses (A.B.C.[D-E]). - An IP subnet (A.B.C.D/M). - * (all addresses). The default is * (meaning all addresses).	OPTIONAL
protocol	The IP protocol to be used as filter for inbound/outbound traffic. The NAT map only applies if the protocol of the IP packet matches the map protocol. Select an IP protocol (see “ Supported IP Protocols” on page 612) or, alternatively, type the protocol number. The default is ***0*** (meaning any protocol).	OPTIONAL

outside_port	The outside port number or range (only for maps of type ***napt***). - For a NAPT map: Represents the range of TCP/UDP ports to be used as dynamic port range during the NAPT process. - For a port-shifting map: Represents the source port(s) to be translated (shifted) into ***inside_port***. Allowed values are: - TCP/UDP port range [P-Q] (with Q > P) - TCP/UDP port number (only for port-shifting maps).	OPTIONAL for NAPT map. REQUIRED for port-shifting map.
inside_port	The inside port number or range (only for maps of type ***napt***). If this parameter is specified for a map of type ***napt***, then this map is a port-shifting map. Represents the target TCP/UDP ports to which the traffic has to be shifted. Allowed values are: - TCP/UDP port range [P-Q] (with Q > P) - TCP/UDP port number (only for port-shifting maps). **Note** The size of ***inside_port*** must be identical to the size of ***outside_port***.	REQUIRED for port-shifting map
mode	The mode to create the portmap. Choose between: - auto - inbound - outbound. The standard is ***auto***.	OPTIONAL

EXAMPLE:

```
=>nat tmpladd intf=myPPP_ppp type=napt outside_addr=100.100.100.1
=>nat tmpllist
Idx Type Interface       Ifgroup  Outside Address                Inside Address                Use
  1 NAPT myPPP_ppp       any      100.100.100.1                  unmapped                      0
=>nat tmpladd group=lan type=napt outside_addr=100.200.100.1
=>nat tmpllist
Idx Type Interface       Ifgroup  Outside Address                Inside Address                Use
  1 NAPT any             lan      100.200.100.1                  unmapped                      0
  2 NAPT myPPP_ppp       any      100.100.100.1                  unmapped                      0
=>
```

RELATED COMMANDS:

nat tmpldelete	Delete an address mapping template.
nat tmpllist	Display the address mapping templates.
nat tmplinst	Instantiate address mapping templates for a given dynamic address.

nat tmpldelete

Delete an address mapping template.

SYNTAX:

```
nat tmpldelete  index = <number>
```

where:

index	The index of the address mapping template to be deleted.	REQUIRED
	Tip Use the command **:nat tmpllist** to view the address mapping templates.	

EXAMPLE:

```
=>nat tmpllist
Idx Type Interface       Ifgroup  Outside Address                Inside Address               Use
  1 NAPT any             lan      100.200.100.1                  unmapped                     0
  2 NAPT myPPP_ppp       any      100.100.100.1                  unmapped                     0
=>nat tmpldelete index=1
=>nat tmpllist
Idx Type Interface       Ifgroup  Outside Address                Inside Address               Use
  1 NAPT myPPP_ppp       any      100.100.100.1                  unmapped                     0
=>
```

RELATED COMMANDS:

nat tmpladd	Add an address mapping template.
nat tmpllist	Display the address mapping templates.
nat tmplinst	Instantiate address mapping templates for a given dynamic address.

nat tmpllist

Display the address mapping templates.

SYNTAX:

```
nat tmpllist  [expand = <{disabled | enabled}>]
```

where:

expand	Enable or disable expanded listing. The default is ***disabled***.	OPTIONAL

EXAMPLE:

```
=>nat tmpllist
Idx Type Interface       Ifgroup  Outside Address                Inside Address               Use
  1 NAPT any             lan      100.200.100.1                  unmapped                     0
  2 NAPT myPPP_ppp       any      100.100.100.1                  unmapped                     0
=>
```

RELATED COMMANDS:

nat tmpladd	Add an address mapping template.
nat tmpldelete	Delete an address mapping template.
nat tmplinst	Instantiate address mapping templates for a given dynamic address.

nat tmplinst

Instantiate address mapping templates for a given dynamic address.

SYNTAX:

```
nat tmplinst  intf = <string>
              addr_index = <ip-address>
              dynamic_addr = <ip-address>
```

where:

intf	The IP interface name.	REQUIRED
addr_index	The outside IP address index/key to instantiate for.	REQUIRED
dynamic_addr	The dynamic address to substitute the index/key with.	REQUIRED

EXAMPLE:

```
=>nat tmplinst intf=myPPP_ppp addr_index=100.100.100.1 dynamic_addr=200.200.200.1
=>nat tmpllist
Idx Type Interface       Ifgroup  Outside Address                 Inside Address                Use
  1 NAPT myPPP_ppp       any      100.100.100.1                   unmapped                      1
=>
```

RELATED COMMANDS:

nat tmpladd	Add an address mapping template.
nat tmpldelete	Delete an address mapping template.
nat tmpllist	Display the address mapping templates.

PPP Commands

Introduction

This chapter describes the commands of the **ppp** command group.

Contents

This chapter covers the following commands:

ppp flush

Flush all PPP interfaces.

The flush command does not impact previously saved configurations.

SYNTAX:

```
ppp flush
```

ppp ifadd

Create a new PPP interface.

SYNTAX:

```
ppp ifadd  intf = <string>
```

where:

intf	The name for the new PPP interface. **Note** If not specified, the destination parameter must be specified. In this case the name of the destination will double as interface name.	REQUIRED

EXAMPLE:

```
=>ppp iflist
Internet: dest : RELAY    [00:00:00]
    Retry : 10
    mode = IP routing
    flags = echo magic accomp restart mru addr savepwd demanddial
    dns metric = 0  mru = 1492  Tx inactivity = 1200s  left = 0s
    auth = auto  user =   password =
    admin state = down    oper state = down    link state = not-connected
    LCP : state = initial  retransm = 10  term. reason =
    IPCP: state = initial  retransm = 0  term. reason =
    acname : ---  service : ---

=>ppp ifadd intf=Rt_PPPoA
=>ppp iflist
Internet: dest : RELAY    [00:00:00]
    Retry : 10
    mode = IP routing
    flags = echo magic accomp restart mru addr savepwd demanddial
    dns metric = 0  mru = 1492  Tx inactivity = 1200s  left = 0s
    auth = auto  user =   password =
    admin state = down    oper state = down    link state = not-connected
    LCP : state = initial  retransm = 10  term. reason =
    IPCP: state = initial  retransm = 0  term. reason =
    acname : ---  service : ---

Rt_PPPoA: dest :     [00:00:00]
    Retry : 10
    mode = IP routing
    flags = echo magic accomp restart mru addr savepwd
    dns metric = 0  mru = 1500
    auth = auto  user =   password =
    admin state = down    oper state = down    link state = not-connected
    LCP : state = initial  retransm = 10  term. reason =
    IPCP: state = initial  retransm = 0  term. reason =

=>
```

RELATED COMMANDS:

ppp ifdelete	Delete a PPP interface.
ppp iflist	Display the PPP interfaces.

ppp ifattach

Attach a PPP interface.

SYNTAX:

```
ppp ifattach     intf = <string>
```

where:

intf	The name of the PPP interface to be attached.	REQUIRED

EXAMPLE:

```
=>ppp iflist
Internet: dest : RELAY    [00:00:00]
    Retry : 10
    mode = IP routing
    flags = echo magic accomp restart mru addr savepwd demanddial
    dns metric = 0  mru = 1492  Tx inactivity = 1200s  left = 0s
    auth = auto  user =   password =
    admin state = down    oper state = down    link state = not-connected
    LCP : state = initial  retransm = 10  term. reason =
    IPCP: state = initial  retransm = 0  term. reason =
    acname : ---  service : ---

Rt_PPPoA: dest : RtPPPoA_atm    [00:00:00]
    Retry : 10
    mode = IP routing
    flags = echo magic accomp restart mru addr route savepwd
    dns metric = 0  mru = 1500
    route : dst=0.0.0.0/0 - src=10.0.0.0/1 (metric 1)
    auth = auto  user = johndoe@ISP  password = ********
    admin state = down    oper state = down    link state = not-connected
    LCP : state = initial  retransm = 10  term. reason =
    IPCP: state = initial  retransm = 0  term. reason =

=>ppp ifattach intf=Rt_PPPoA
=>ppp iflist
Internet: dest : RELAY    [00:00:00]
    Retry : 10
    mode = IP routing
    flags = echo magic accomp restart mru addr savepwd demanddial
    dns metric = 0  mru = 1492  Tx inactivity = 1200s  left = 0s
    auth = auto  user =   password =
    admin state = down    oper state = down    link state = not-connected
    LCP : state = initial  retransm = 10  term. reason =
    IPCP: state = initial  retransm = 0  term. reason =
    acname : ---  service : ---

Rt_PPPoA: dest : RtPPPoA_atm    [00:00:00]
    Retry : 10
    mode = IP routing
    flags = echo magic accomp restart mru addr route savepwd
    dns metric = 0  mru = 1500
    route : dst=0.0.0.0/0 - src=10.0.0.0/1 (metric 1)
    auth = auto  user = johndoe@ISP  password = ********
    admin state = up    oper state = down    link state = connected
    LCP : state = reqsent  retransm = 1  term. reason =
    IPCP: state = initial  retransm = 0  term. reason =

=>
```

RELATED COMMANDS:

ppp ifdetach	Detach a PPP interface.

ppp ifconfig

Configure a PPP interface.

The interface to be configured must not be connected at the time of configuration. If this should be the case, use the command **`:ppp ifdetach`** before using the command **`:ppp ifconfig`**.

SYNTAX:

```
ppp ifconfig    intf = <string>
                [dest = <string>]
                [user = <string>]
                [password = <password>
                [acname = <quoted string>
                [servicename = <quoted string>
                [pcomp = <{disabled | enabled}>
                [accomp = <{enabled | disabled | negotiate}>]
                [trace = <{disabled | enabled}>]
                [concentrator = <{disabled | enabled}>]
                [auth = <{pap | chap | auto}>]
                [restart = <{disabled | enabled}>]
                [retryinterval = <number{0-65535}>]
                [passive = <{disabled | enabled}>]
                [silent = <{disabled | enabled}>]
                [echo = <{disabled | enabled}>]
                [mru = <number{293-8192}>]
                [laddr = <ip-address>]
                [raddr = <ip-address>]
                [netmask = <ip-mask(dotted or cidr)>]
                [format = <{cidr | dotted | none}>]
                [pool = <none>]
                [savepwd = <{disabled | enabled}>]
                [demanddial = <{disabled | enabled}>]
                [doddelay = <number{0-3600}>]
                [primdns = <ip-address>]
                [secdns = <ip-address>]
                [dnsmetric = <number{0-100}>]
                [idletime = <number{0-1000000}>]
                [idletrigger = <{RxTx | Rx | Tx}>]
                [unnumbered = <{disabled | enabled}>]
```

where:

intf	The name of the PPP interface to be configured.	REQUIRED
dest	The destination for this PPP interface. Typically, a phonebook entry. If an Ethernet interface is given as destination, then the connection will be a PPPoE connection. If an ATM interface is given as destination, then the connection will be a PPPoA connection.	OPTIONAL
user	The user name for remote PAP/CHAP authentication.	OPTIONAL

password	The password for remote PAP/CHAP authentication.	OPTIONAL
acname	The Access Concentrator name for a PPPoE session. **Tip** Use the command `:ppp ifscan` to obtain the names of available access concentrators, if any.	OPTIONAL
servicename	The Service Name for a PPPoE session. **Tip** Use the command `:ppp ifscan` to obtain the available service names, if any.	OPTIONAL
pcomp	Try (enabled) or do not try (disabled) to negotiate PPP protocol compression (LCP PCOMP). The default is ***disabled***.	OPTIONAL
accomp	Try (enabled), do never try (disabled) or negotiate (negotiate) to negotiate PPP address & control field compression (LCP ACCOMP). In most cases, LCP ACCOMP should not be disabled nor negotiated, in other words, the address field FF-03 should not be sent over ATM. The default is ***enabled***. **Note** If the accomp parameter is set to “negotiate”, the local side of the PPP connection demands to do ACCOMP and adapts itself to the result of this negotiation.	OPTIONAL
trace	Enable or disable verbose console logging. The default is ***disabled***.	OPTIONAL
concentrator	The access concentrator is on this side of the PPPoE connection. Choose between: - ***enabled***: the PPP connection is terminated on the Access Concentrator (here the SpeedTouch™ itself) - ***disabled***: the SpeedTouch™ is PPP client. The default is ***disabled***.	OPTIONAL
auth	Select the authentication protocol. Choose between: - ***pap***: Password Authentication Protocol (PAP) authentication will be forced. - ***chap***: Challenge Handshake Authentication Protocol (CHAP) authentication will be forced. - ***auto***: CHAP authentication will be used. If CHAP authentication is not successful, PAP authentication will be used instead. The default is ***auto***.	OPTIONAL
restart	Automatically restart the connection when Link Control Protocol (LCP) link goes down (enabled) or not (disabled). The default is ***disabled***.	OPTIONAL
retryinterval	A number between 0 and 65535 (seconds). Represents the intermediate interval between two retries to establish the connection on ATM level. The default is ***10***.	OPTIONAL
passive	Put the link in listening state in case LCP times out (enabled) or not (disabled). This parameter allows to determine whether the link should be left open to wait for incoming messages from the remote side after 10 unsuccessful tries to establish the connection or not. The default is ***disabled***.	OPTIONAL
silent	Do not send anything at startup and just listen for incoming LCP messages (enabled) or retry up to 10 times to establish the connection (disabled). The default is ***disabled***.	OPTIONAL

echo	Send LCP echo requests at regular intervals (enabled) or not (disabled). The default is ***disabled***.	OPTIONAL
mru	A number between 293 and 8192. Represents the maximum packet size the SpeedTouch™ should negotiate to be able to receive. The default is ***1492***.	OPTIONAL
laddr	The local IP address of the peer-to-peer connection. Specifying a local IP address forces the remote side of the PPP link (if it allows to) to accept this IP address as the SpeedTouch™ PPP session IP address. If not specified, the SpeedTouch™ will accept any IP address. Typically the local IP address parameter is not specified.	OPTIONAL
raddr	The remote IP address of the peer-to-peer connection. Specifying a remote IP address forces the remote side of the PPP link (if it allows to) to accept this IP address as its PPP session IP address. If not specified, the SpeedTouch™ will accept any IP address. Typically the remote IP address parameter is not specified.	OPTIONAL
netmask	The subnetmask associated with this address. Specifying a subnetmask forces the remote side (if it allows to) to accept this subnetmask as the PPP session subnetmask. If not specified, the SpeedTouch™ will accept any subnetmask. The SpeedTouch™ will only request/accept a subnetmask if a DHCP server pool is associated, in other words, if the [pool] parameter is specified.	OPTIONAL
format	The negotiated subnetmask specified in the netmask parameter is specified in the dotted format (dotted) or in Classless Inter Domain Routing (CIDR) format (cidr). The default is ***cidr***.	OPTIONAL
pool	The name of the free DHCP server pool to which the acquired IP subnet must be assigned.	OPTIONAL
savepwd	Save password (enabled), if supplied, or do not save the password (disabled). The default is ***disabled***.	OPTIONAL
demanddial	Enable or disable the dial-on-demand feature. The default is ***disabled***.	OPTIONAL
doddelay	A number between 0 and 3600 (seconds). During this initial interval, packets do not trigger the PPP interface.	OPTIONAL
primdns	The IP address of the primary DNS server. In case a primary DNS server is specified, the SpeedTouch™ will negotiate this IP address with the remote side. **Note** If not specified, the SpeedTouch™ will accept any IP address.	OPTIONAL
secdns	The IP address of the (optional) secondary DNS server. In case a secondary DNS server is specified, the SpeedTouch™ will negotiate this IP address with the remote side. **Note** If not specified, the SpeedTouch™ will accept any IP address.	OPTIONAL
dnsmetric	A number between 1 and 100. Represents the DNS route metric to be used for the negotiated DNS servers. The default is ***1***.	OPTIONAL
idletime	A number between 0 and 1000000 (seconds). Represents the maximum time the link may be idle. The default is ***0***.	OPTIONAL

idletrigger	Consider the link being idle if no traffic is sent and/or received during the idle time. Choose between: - ***RxTx***: The idle time period restarts when a packet is transmitted or received. - ***Rx***: The idle time period restarts when a packet is received. Transmitted packets are ignored. - ***Tx***: The idle time period restarts when a packet is transmitted. Received packets are ignored. The default is ***RxTx***.	OPTIONAL
unnumbered	Takes the local IP address from the *laddr* field and remote IP address from the IP address pool assigned to the incoming PPP link. In case the unnumbered parameter is disabled, the same IP address is used for each connection on the server side, thus reducing the number of used IP addresses.	OPTIONAL

EXAMPLE:

```
=>ppp iflist
Internet: dest : RELAY    [00:00:00]
    Retry : 10
    mode = IP routing
    flags = echo magic accomp restart mru addr savepwd demanddial
    dns metric = 0  mru = 1492  Tx inactivity = 1200s  left = 0s
    auth = auto  user =   password =
    admin state = down    oper state = down    link state = not-connected
    LCP : state = initial  retransm = 10  term. reason =
    IPCP: state = initial  retransm = 0  term. reason =
    acname : ---  service : ---

Rt_PPPoA: dest :     [00:00:00]
    Retry : 10
    mode = IP routing
    flags = echo magic accomp restart mru addr savepwd
    dns metric = 0  mru = 1500
    auth = auto  user =   password =
    admin state = down    oper state = down    link state = not-connected
    LCP : state = initial  retransm = 10  term. reason =
    IPCP: state = initial  retransm = 0  term. reason =

=> ppp ifconfig intf=Rt_PPPoA dest=RtPPPoA_atm user=johndoe@ISP password=johndoe
[ppp]=>iflist
Internet: dest : RELAY    [00:00:00]
    Retry : 10
    mode = IP routing
    flags = echo magic accomp restart mru addr savepwd demanddial
    dns metric = 0  mru = 1492  Tx inactivity = 1200s  left = 0s
    auth = auto  user =   password =
    admin state = down    oper state = down    link state = not-connected
    LCP : state = initial  retransm = 10  term. reason =
    IPCP: state = initial  retransm = 0  term. reason =
    acname : ---  service : ---

Rt_PPPoA: dest : RtPPPoA_atm    [00:00:00]
    Retry : 10
    mode = IP routing
    flags = echo magic accomp restart mru addr savepwd
    dns metric = 0  mru = 1500
    auth = auto  user = johndoe@ISP  password = ********
    admin state = down    oper state = down    link state = not-connected
    LCP : state = initial  retransm = 10  term. reason =
    IPCP: state = initial  retransm = 0  term. reason =
=>
```

ppp ifdelete

Delete a PPP interface.

SYNTAX:

```
ppp ifdelete    intf = <intfname>
```

where:

intf	The name of the PPP interface to be deleted.	REQUIRED

EXAMPLE:

```
=>ppp iflist
Internet: dest : RELAY    [00:00:00]
    Retry : 10
    mode = IP routing
    flags = echo magic accomp restart mru addr savepwd demanddial
    dns metric = 0  mru = 1492  Tx inactivity = 1200s  left = 0s
    auth = auto  user =   password =
    admin state = down    oper state = down    link state = not-connected
    LCP : state = initial  retransm = 10  term. reason =
    IPCP: state = initial  retransm = 0  term. reason =
    acname : ---  service : ---

Rt_PPPoA: dest : RtPPPoA_atm [local disconnect]   [00:00:00]
    Retry : 10
    mode = IP routing
    flags = echo magic accomp restart mru addr savepwd
    dns metric = 0  mru = 1500
    auth = auto  user = johndoe@ISP  password = ********
    admin state = down    oper state = down    link state = not-connected
    LCP : state = initial  retransm = 9  term. reason = User kill
    IPCP: state = initial  retransm = 0  term. reason =

=>ppp ifdelete intf=Rt_PPPoA
=>ppp iflist
Internet: dest : RELAY    [00:00:00]
    Retry : 10
    mode = IP routing
    flags = echo magic accomp restart mru addr savepwd demanddial
    dns metric = 0  mru = 1492  Tx inactivity = 1200s  left = 0s
    auth = auto  user =   password =
    admin state = down    oper state = down    link state = not-connected
    LCP : state = initial  retransm = 10  term. reason =
    IPCP: state = initial  retransm = 0  term. reason =
    acname : ---  service : ---

=>
```

RELATED COMMANDS:

ppp ifadd	Create a new PPP interface.
ppp iflist	Display the PPP interfaces.

ppp ifdetach

Detach a PPP interface.

SYNTAX:

```
ppp ifdetach     intf = <intfname>
```

where:

intf	The name of the PPP interface to be detached.	REQUIRED

EXAMPLE:

```
=>ppp iflist
Internet: dest : RELAY    [00:00:00]
    Retry : 10
    mode = IP routing
    flags = echo magic accomp restart mru addr savepwd demanddial
    dns metric = 0  mru = 1492  Tx inactivity = 1200s  left = 0s
    auth = auto  user =   password =
    admin state = down    oper state = down    link state = not-connected
    LCP : state = initial  retransm = 10  term. reason =
    IPCP: state = initial  retransm = 0  term. reason =
    acname : ---  service : ---

Rt_PPPoA: dest : RtPPPoA_atm    [00:00:00]
    Retry : 10
    mode = IP routing
    flags = echo magic accomp restart mru addr route savepwd
    dns metric = 0  mru = 1500
    route : dst=0.0.0.0/0 - src=10.0.0.0/1 (metric 1)
    auth = auto  user = johndoe@ISP  password = ********
    admin state = up    oper state = down    link state = connected
    LCP : state = reqsent  retransm = 5  term. reason =
    IPCP: state = initial  retransm = 0  term. reason =

=>ppp ppp ifdetach intf=Rt_PPPoA
=>ppp iflist
Internet: dest : RELAY    [00:00:00]
    Retry : 10
    mode = IP routing
    flags = echo magic accomp restart mru addr savepwd demanddial
    dns metric = 0  mru = 1492  Tx inactivity = 1200s  left = 0s
    auth = auto  user =   password =
    admin state = down    oper state = down    link state = not-connected
    LCP : state = initial  retransm = 10  term. reason =
    IPCP: state = initial  retransm = 0  term. reason =
    acname : ---  service : ---

Rt_PPPoA: dest : RtPPPoA_atm [local disconnect]   [00:00:00]
    Retry : 10
    mode = IP routing
    flags = echo magic accomp restart mru addr route savepwd
    dns metric = 0  mru = 1500
    route : dst=0.0.0.0/0 - src=10.0.0.0/1 (metric 1)
    auth = auto  user = johndoe@ISP  password = ********
    admin state = down    oper state = down    link state = not-connected
    LCP : state = initial  retransm = 9  term. reason = User kill
    IPCP: state = initial  retransm = 0  term. reason =
=>
```

RELATED COMMANDS:

ppp ifattach	Attach a PPP interface.

ppp iflist

Display the PPP interfaces.

SYNTAX:

```
ppp iflist     [intf = <intfname>]
```

where:

intf   The name of the PPP interface.   OPTIONAL

Note   If not specified, all PPP interfaces are shown.

EXAMPLE INPUT/OUTPUT :

```
=>ppp iflist
Internet: dest : RELAY    [00:00:00]
    Retry : 10
    mode = IP routing
    flags = echo magic accomp restart mru addr savepwd demanddial
    dns metric = 0  mru = 1492  Tx inactivity = 1200s  left = 0s
    auth = auto  user =   password =
    admin state = down    oper state = down    link state = not-connected
    LCP : state = initial  retransm = 10  term. reason =
    IPCP: state = initial  retransm = 0  term. reason =
    acname : ---  service : ---

Rt_PPPoA: dest : RtPPPoA_atm    [00:00:00]
    Retry : 10
    mode = IP routing
    flags = echo magic accomp restart mru addr route savepwd
    dns metric = 0  mru = 1500
    route : dst=0.0.0.0/0 - src=10.0.0.0/1 (metric 1)
    auth = auto  user = johndoe@ISP  password = ********
    admin state = up    oper state = down    link state = connected
    LCP : state = reqsent  retransm = 1  term. reason =
    IPCP: state = initial  retransm = 0  term. reason =

=>
```

RELATED COMMANDS:

ppp ifadd	Create a new PPP interface.
ppp ifdelete	Delete a PPP interface.

ppp ifscan

Scan a PPPoE interface for available Access Concentrator and Service names.

Use the command **:ppp ifdetach** for this interface before performing a scan on it.

SYNTAX:

```
ppp ifscan     intf = <string>
               [time = <number{0-36000}>]
```

where:

intf	The name of the PPPoE interface to be scanned.	REQUIRED
time	A number between 0 and 36000 (seconds). Represents the time to scan for services.	OPTIONAL

EXAMPLE:

```
=>ppp iflist
myRtPPPoE: dest : RtPPPoE_eth    [00:00:00]
    Retry : 10
    mode = IP routing
    flags = echo magic accomp restart mru addr route savepwd
    dns metric = 0  mru = 1492
    route : dst=0.0.0.0/0 - src=10.0.0.0/1 (metric 1)
    auth = auto  user = johndoe@ISP  password = ********
    admin state = down    oper state = down    link state = not-connected
    LCP : state = initial  retransm = 9  term. reason =
    IPCP: state = initial  retransm = 0  term. reason =
    acname : ---  service : ---
=>ppp ifscan intf=myRtPPPoE time=45
        Service Name                          Access Concentrator

Done !
=>
```

ppp rtadd

Add a route to the routing table when the PPP link comes up.

This route configuration will determine which local hosts are allowed to use this link and/or which remote destinations should be or should not be reachable.

The interface must not be connected when a route configuration is added. If this should be the case, use the command **:ppp ifdetach** for this interface prior to configuring routes.

SYNTAX:

```
ppp rtadd     intf = <intfname>
              dst = <ip-address>
              [dstmsk = <ip-mask(dotted or cidr)>]
              [label = <string>]
              [src = <ip-address>]
              [srcmsk = <ip-mask(dotted or cidr)>]
              [metric = <number{0-100}>]
```

where:

intf	The name of the PPP interface.	REQUIRED
dst	The IP destination address specification for the route to be added when the link comes up.	REQUIRED
dstmsk	The destination IP mask. Depending on the destination netmask: - Any remote destination is reachable, in other words, the PPP connection acts as default route (*dstmsk=0*) - Only the remote (sub)net is reachable (*dstmsk=1*) - The actual destination mask will be the default netmask applicable for destination IP address - Only the single remote host is reachable (*dstmsk=32*) - Any valid (contiguous) netmask in case of Variable Length Subnet Masking (VLSM).	OPTIONAL
label	The name of the label.	OPTIONAL
src	The IP source address specification for the route (in other words, who can use this link).	OPTIONAL
srcmsk	The source IP mask. Depending on the source netmask: - Everybody is allowed to use this PPP connection (*dstmsk=0*) - Only members of the same subnet as the host which opened the PPP connection are allowed to use the PPP connection (*dstmsk=1*) - The actual destination mask will be the netmask applicable for the IP address of the host which opened the PPP connection - Only the host which opened the PPP connection is allowed to use the PPP connection (*dstmsk=32*) - Any valid (contiguous) netmask in case of VLSM.	OPTIONAL
metric	The route metric, in other words, the cost factor of the route. Practically, the cost is determined by the hop count.	OPTIONAL

EXAMPLE:

```
=>ppp iflist
Internet: dest : RELAY    [00:00:00]
    Retry : 10
    mode = IP routing
    flags = echo magic accomp restart mru addr savepwd demanddial
    dns metric = 0  mru = 1492  Tx inactivity = 1200s  left = 0s
    auth = auto  user =   password =
    admin state = down    oper state = down    link state = not-connected
    LCP : state = initial  retransm = 10  term. reason =
    IPCP: state = initial  retransm = 0  term. reason =
    acname : ---  service : ---

Rt_PPPoA: dest : RtPPPoA_atm    [00:00:00]
    Retry : 10
    mode = IP routing
    flags = echo magic accomp restart mru addr savepwd
    dns metric = 0  mru = 1500
    auth = auto  user = johndoe@ISP  password = ********
    admin state = down    oper state = down    link state = not-connected
    LCP : state = initial  retransm = 10  term. reason =
    IPCP: state = initial  retransm = 0  term. reason =

=>ppp rtadd intf=Rt_PPPoA dst=0.0.0.0/0 src=10.0.0.0/1
=>ppp iflist
Internet: dest : RELAY    [00:00:00]
    Retry : 10
    mode = IP routing
    flags = echo magic accomp restart mru addr savepwd demanddial
    dns metric = 0  mru = 1492  Tx inactivity = 1200s  left = 0s
    auth = auto  user =   password =
    admin state = down    oper state = down    link state = not-connected
    LCP : state = initial  retransm = 10  term. reason =
    IPCP: state = initial  retransm = 0  term. reason =
    acname : ---  service : ---

Rt_PPPoA: dest : RtPPPoA_atm    [00:00:00]
    Retry : 10
    mode = IP routing
    flags = echo magic accomp restart mru addr route savepwd
    dns metric = 0  mru = 1500
    route : dst=0.0.0.0/0 - src=10.0.0.0/1 (metric 1)
    auth = auto  user = johndoe@ISP  password = ********
    admin state = down    oper state = down    link state = not-connected
    LCP : state = initial  retransm = 10  term. reason =
    IPCP: state = initial  retransm = 0  term. reason =
=>
```

RELATED COMMANDS:

ppp rtdelete	Delete the route for a PPP link.

ppp rtdelete

Delete the route for a PPP link.

The interface must not be connected when a route configuration must be deleted. If the interface is connected, use the command **:ppp ifdetach** for this interface.

SYNTAX:

```
ppp rtdelete     intf = <intfname>
```

where:

intf	The PPP interface name for which to delete the route settings.	REQUIRED

EXAMPLE:

```
=>ppp iflist
Internet: dest : RELAY    [00:00:00]
    Retry : 10
    mode = IP routing
    flags = echo magic accomp restart mru addr savepwd demanddial
    dns metric = 0  mru = 1492  Tx inactivity = 1200s  left = 0s
    auth = auto  user =   password =
    admin state = down    oper state = down    link state = not-connected
    LCP : state = initial  retransm = 10  term. reason =
    IPCP: state = initial  retransm = 0  term. reason =
    acname : ---  service : ---

Rt_PPPoA: dest : RtPPPoA_atm [local disconnect]   [00:00:00]
    Retry : 10
    mode = IP routing
    flags = echo magic accomp restart mru addr route savepwd
    dns metric = 0  mru = 1500
    route : dst=0.0.0.0/0 - src=10.0.0.0/1 (metric 1)
    auth = auto  user = johndoe@ISP  password = ********
    admin state = down    oper state = down    link state = not-connected
    LCP : state = initial  retransm = 9  term. reason = User kill
    IPCP: state = initial  retransm = 0  term. reason =

=>ppp ppp rtdelete intf=Rt_PPPoA
=>ppp iflist
Internet: dest : RELAY    [00:00:00]
    Retry : 10
    mode = IP routing
    flags = echo magic accomp restart mru addr savepwd demanddial
    dns metric = 0  mru = 1492  Tx inactivity = 1200s  left = 0s
    auth = auto  user =   password =
    admin state = down    oper state = down    link state = not-connected
    LCP : state = initial  retransm = 10  term. reason =
    IPCP: state = initial  retransm = 0  term. reason =
    acname : ---  service : ---

Rt_PPPoA: dest : RtPPPoA_atm [local disconnect]   [00:00:00]
    Retry : 10
    mode = IP routing
    flags = echo magic accomp restart mru addr savepwd
    dns metric = 0  mru = 1500
    auth = auto  user = johndoe@ISP  password = ********
    admin state = down    oper state = down    link state = not-connected
    LCP : state = initial  retransm = 9  term. reason = User kill
    IPCP: state = initial  retransm = 0  term. reason =

=>
```

RELATED COMMANDS:

ppp rtadd	Add a route to the routing table when the PPP link comes up.

ppp relay flush

Remove all Ethernet interfaces from the PPP relay agent list and terminate all sessions.

The flush command does not impact previously saved configurations.

SYNTAX:

```
ppp relay flush
```

ppp relay ifadd

Add an Ethernet interface to the PPP relay list.

SYNTAX:

```
ppp relay ifadd  intf = <string>
```

where:

intf	The Ethernet interface to be added to the PPP relay agent list.	REQUIRED

EXAMPLE:

```
=>ppp relay iflist
#  Interface        HWaddr            Status
1  ethoa_0_35       00-0e-50-0f-fc-2d connected
=>ppp relay ifadd intf=ethoa_8_35
=>ppp relay iflist
#  Interface        HWaddr            Status
1  ethoa_0_35       00-0e-50-0f-fc-2d connected
2  ethoa_8_35       00-0e-50-0f-fc-2d connected
=>
```

RELATED COMMANDS:

ppp relay ifdelete	Delete an Ethernet interface from the PPP relay agent list.
ppp relay iflist	Display all Ethernet interfaces added to the PPP relay agent list.

ppp relay ifconfig

Modify an ethernet interface from the PPP relay agent list.

SYNTAX:

`ppp relay ifconfig`	`intf = <string>`
	`hwaddr = <hardware-address>`

where:

inft	The ethernet intf to be added to the PPP relay agent list.	REQUIRED
hwaddr	The hardware address (e.g. Ethernet MAC address) of this interface.	REQUIRED

ppp relay ifdelete

Delete an Ethernet interface from the PPP relay agent list.

SYNTAX:

```
ppp relay ifdelete  intf = <string>
```

where:

intf	The Ethernet interface to be deleted from the PPP relay agent list.	REQUIRED

EXAMPLE:

```
=>ppp relay iflist
#  Interface        HWaddr            Status
1  ethoa_0_35       00-0e-50-0f-fc-2d connected
2  ethoa_8_35       00-0e-50-0f-fc-2d connected
=>ppp relay ifdelete intf=ethoa_8_35
=>ppp relay iflist
#  Interface        HWaddr            Status
1  ethoa_0_35       00-0e-50-0f-fc-2d connected
=>
```

RELATED COMMANDS:

ppp relay ifadd	Add an Ethernet interface to the PPP relay list.
ppp relay iflist	Display all Ethernet interfaces added to the PPP relay agent list.

ppp relay iflist

Display all Ethernet interfaces added to the PPP relay agent list.

SYNTAX:

```
ppp relay iflist
```

where:

intf	The Ethernet interface to be added to the PPP relay agent list.	REQUIRED

EXAMPLE:

```
=>ppp relay iflist
#  Interface        HWaddr            Status
1  ethoa_0_35       00-0e-50-0f-fc-2d connected
2  ethoa_8_35       00-0e-50-0f-fc-2d connected
=>
```

RELATED COMMANDS:

ppp relay ifadd	Add an Ethernet interface to the PPP relay list.
ppp relay ifdelete	Delete an Ethernet interface from the PPP relay agent list.

ppp relay sesslist

Add an Ethernet interface to the PPP relay list.

SYNTAX:

```
ppp relay ifadd  intf = <string>
```

where:

intf	The Ethernet interface to be added to the PPP relay agent list.	REQUIRED

PPTP Commands

Introduction

This chapter describes the commands of the **pptp** command group.

Contents

This chapter covers the following commands:

pptp ifadd

Add a Point-to-Point Tunneling Protocol (PPTP) profile.

Backwards compatible with previous release, use profiles instead.

SYNTAX:

```
pptp ifadd  dest = <string>
            [rate = <number{10-10000}>]
            [encaps = <{vcmux | nlpid}>]
            [ac = <{never | always | keep}>]
```

where:

dest	The WAN destination for this PPTP tunnel. Typically a phonebook entry.	REQUIRED
rate	A number between 10 and 10000. Represents the transmission speed (in bits/s) for the WAN link.	OPTIONAL
encaps	The type of WAN encapsulation to be used with this PPTP profile. Choose between: ▸ VC_MUX ▸ Network Layer Protocol IDentifiers (NLPID). The default is ***vcmux***.	OPTIONAL
ac	The High-level Data Link Control (HDLC) framing option applicable to PPTP interfaces using this PPTP profile. Choose between: ▸ ***always***: Before relaying the encapsulated PPP frames over the PPPoA link, make sure that the address and control field (0xFF03) is always in front of the frames. ▸ ***never***: Before relaying the encapsulated PPP frames over the PPPoA link, make sure the address and control field will never be found in front of the frames. ▸ ***keep***: Do not change the frames arriving via the PPTP tunnel. The default is ***never***. **Note** The default setting is compliant to RFC2364, therefore it is recommended to keep this setting.	OPTIONAL

pptp flush

Flush the complete PPTP configuration.

The flush command does not impact previously saved configurations.

SYNTAX:

```
pptp flush
```

pptp list

Show the current PPTP configuration.

SYNTAX:

```
pptp list
```

EXAMPLE:

```
=>pptp list
Dialstr    Destination   QoS       Encaps   AC      State       User
           DIALUP_PPP3   default   vcmux    never   CONNECTED   (10.0.0.2)
=>
```

pptp profadd

Define a new PPTP profile.

SYNTAX:

```
pptp profadd  name = <string>
              [qos = <string>]
              [encaps = <{vcmux | nlpid}>]
              [ac = <{never | always | keep}>]
```

where:

name	The name of the new PPTP profile.	REQUIRED
qos	The name of the qosbook entry, containing the settings for this profile. **Note** This parameter never needs to be specified.	OPTIONAL
encaps	The type of WAN protocol encapsulation to be used with this PPTP profile. Choose between: - VC-MUX - NLPID. The default is ***vcmux***.	OPTIONAL
ac	The HDLC framing option applicable to PPTP interfaces using this PPTP profile. Choose between: - ***always***: Before relaying the encapsulated PPP frames over the PPPoA link, make sure that the address and control field (0xFF03) is always in front of the frames. - ***never***: Before relaying the encapsulated PPP frames over the PPPoA link, make sure the address and control field will never be found in front of the frames. - ***keep***: Do not change the frames arriving via the PPTP tunnel. The default is ***never***. **Note** The default setting is compliant to RFC2364, therefore it is recommended to keep this setting.	OPTIONAL

EXAMPLE:

```
=>pptp proflist
Profile      QoS      Encaps      AC
Relay_PPP1   default  nlpid       always
=>pptp profadd name=PPTPLink encaps=vcmux ac=never
=>pptp proflist
Profile      QoS      Encaps      AC
Relay_PPP1   default  nlpid       always
PPTPLink     default  vcmux       never
=>
```

RELATED COMMANDS:

pptp profdelete	Define a new PPTP profile.
pptp proflist	Display all the current PPTP profiles.

pptp profdelete

Delete a PPTP profile.

SYNTAX:

```
pptp profdelete   name <string>
```

where:

name	The name of the PPTP profile to be deleted.	REQUIRED

EXAMPLE:

```
=>pptp proflist
Profile      QoS      Encaps      AC
Relay_PPP1   default  nlpid       always
PPTPLink     default  vcmux       never
=>pptp profdelete name=PPTPLink
=>pptp proflist
Profile      QoS      Encaps      AC
Relay_PPP1   default  nlpid       always
=>
```

RELATED COMMANDS:

pptp profadd	Define a new PPTP profile.
pptp proflist	Display all the current PPTP profiles.

pptp proflist

Display all the current PPTP profiles.

SYNTAX:

```
pptp proflist
```

EXAMPLE:

```
=>pptp proflist
Profile      QoS      Encaps      AC
Relay_PPP1   default  nlpid       always
PPTPLink     default  vcmux       never
=>
```

RELATED COMMANDS:

pptp profadd	Define a new PPTP profile.
pptp profdelete	Delete a PPTP profile.

Script Commands

Introduction

This chapter describes the commands of the `script` command group.

Scripting is not a general purpose mechanism but is only used in the autoPVC/ILMI mechanism.

! It is recommended not to change the default scripts.

Contents

This chapter covers the following commands:

script add

Add a line to a script.

SYNTAX:

```
script add   name = <string>
             [index = <number>]
             command = <quoted string>
```

where:

name	Name of the script in which a line must be added.	REQUIRED
index	Line number **Note** Use 0 to add a line.	OPTIONAL
command	Command.	REQUIRED

RELATED COMMANDS:

script delete	Delete a complete script or a line from a script.
script list	Display a script or all scripts.

script delete

Delete a complete script or a line from a script.

SYNTAX:

```
script delete   name = <string>
                [index = <number>]
```

where:

name	Name of the script to be deleted.	REQUIRED
index	Line number to be deleted. **Tip** Use the command `:script list` to view the line numbers. **Note** If not specified, the complete script will be deleted.	OPTIONAL

RELATED COMMANDS:

script add	Add a line to a script.
script list	Display a script or all scripts.

script flush

Flush all scripts.

The flush command does not impact previously saved configurations.

SYNTAX:

```
script flush
```

script list

Display a script or all scripts.

SYNTAX:

```
script list   [name = <string>]
```

where:

name	Name of the script to be listed.	OPTIONAL
	Note If not specified, all the scripts are displayed.	

EXAMPLE

Some of the default scripts are shown below:

```
=>script list
Script: autopvc_add_qos
     0: qosbook add name _auto_$1_$2 class $3 tx_peakrate $4 tx_sustrate $5 tx_maxburst $6
        rx_peakrate $4 rx_sustrate $5 rx_maxburst $6 dynamic yes

...

Script: autopvc_add_bridge
     0: qosbook add name _auto_$1_$2 class $3 tx_peakrate $4 tx_sustrate $5 tx_maxburst $6
        rx_peakrate $4 rx_sustrate $5 rx_maxburst $6 dynamic yes
     1: phonebook add name _auto_$1_$2 addr $1.$2 type any dynamic yes
     2: bridge ifadd intf _auto_$1_$2 dest _auto_$1_$2
     3: bridge ifconfig intf _auto_$1_$2 qos _auto_$1_$2
     4: bridge ifattach intf _auto_$1_$2

Script: autopvc_delete_bridge
     0: bridge ifdetach intf _auto_$1_$2
     1: bridge ifdelete intf _auto_$1_$2
     2: phonebook delete name _auto_$1_$2
     3: qosbook delete name _auto_$1_$2

Script: autopvc_add_pppoerelay
     0: qosbook add name _auto_$1_$2 class $3 tx_peakrate $4 tx_sustrate $5 tx_maxburst $6
        rx_peakrate $4 rx_sustrate $5 rx_maxburst $6 dynamic yes
     1: phonebook add name _auto_$1_$2 addr $1.$2 type any dynamic yes
     2: ethoa ifadd intf _auto_$1_$2 dest _auto_$1_$2
     3: ethoa ifconfig intf _auto_$1_$2 qos _auto_$1_$2
     4: ethoa ifattach intf _auto_$1_$2
     5: ip ifwait intf _auto_$1_$2 timeout 15 adminstatus up
     6: pppoe relay add port _auto_$1_$2

...
=>
```

RELATED COMMANDS:

script add	Add a line to a script.
script delete	Delete a complete script or a line from a script.

script run

Run a script.

SYNTAX:

```
script run   name = <string>
             pars = <string>
```

where:

name	Name of the script to be run. **Tip** Use the command `:script list` to obtain the names of the different scripts.	REQUIRED
pars	Parameters separated with comma. For example a,b,c.	REQUIRED

Service Commands

Introduction

This chapter describes the commands of the `service` command group.

Contents

This chapter covers the following commands:

service host assign

Assign a host service to a LAN device.

SYNTAX:

```
service host assign  name = <quoted string>
                     [host = <ip-address>]
                     [log = <{disabled|enabled}>]
```

where:

name	The name of an existing host service.	REQUIRED
host	The IP address of the LAN device.	OPTIONAL
log	Enable or disable logging.	OPTIONAL

EXAMPLE:

```
=>service host assign name="MSN Messenger" host=192.168.1.64
=>service host list
Service Name                              Host             User-Defined Mode
----------------------------------------------------------------------------
Age of Empires                            unassigned                    server
AIM Talk                                  unassigned                    client
Aliens vs. Predator                       unassigned                    server
..
MSN Messenger                             192.168.1.64                  server
...
=>
```

RELATED COMMANDS:

service host disable	Disable a host service.

service host config

Get/set global host service configuration options.

SYNTAX:

```
service host config  [trace = <{disabled | enabled}>]
```

where:

trace	Enable or disable traces. The default is ***disabled***.	REQUIRED

EXAMPLE:

```
=>service host config
Service traces : disabled
l=>
```

service host add

Add a host service.

SYNTAX:

```
service host add     name = <quoted string>
                     [mode = <{server | client | custom}>]
```

where:

name	The name of the new host service.	REQUIRED
mode	The service mode. Choose between: - ***server***: The service is defined for server purposes. - ***client***: The service is defined for client purposes. - ***custom***: The service is a user created service (in other words, a customized service). The default is ***custom***.	OPTIONAL

EXAMPLE:

```
=>service host list
Service Name                             Host             User-Defined Mode
---------------------------------------------------------------------------
Age of Empires                           unassigned                    server
AIM Talk                                 unassigned                    client
...
MSN Messenger                            unassigned                    server
=>service host add name=myService
=>service host list
Service Name                             Host             User-Defined Mode
---------------------------------------------------------------------------
Age of Empires                           unassigned                    server
AIM Talk                                 unassigned                    client
...
MSN Messenger                            unassigned                    server
myService                                unassigned       yes
=>
```

RELATED COMMANDS:

service host delete	Delete a host service.
service host list	Display a list of host services.

service host delete

Delete a host service.

SYNTAX:

```
service host delete  name = <quoted string>
```

where:

name	The name of the host service to be deleted.	REQUIRED

EXAMPLE:

```
=>service host list
Service Name                             Host             User-Defined Mode
---------------------------------------------------------------------------
Age of Empires                           unassigned                    server
AIM Talk                                 unassigned                    client
...
MSN Messenger                            unassigned                    server
myService                                unassigned       yes
=>service host delete name=myService
=>service host list
Service Name                             Host             User-Defined Mode
---------------------------------------------------------------------------
Age of Empires                           unassigned                    server
AIM Talk                                 unassigned                    client
...
MSN Messenger                            unassigned                    server
=>
```

RELATED COMMANDS:

service host add	Add a host service.
service host list	Display a list of host services.

service host disable

Disable a host service.

SYNTAX:

```
service host disable  [name = <quoted string>]
```

where:

name	The name of the host service to be disabled.	OPTIONAL
	Note If not specified, all the host services will be disabled.	

EXAMPLE:

```
=>service host list
Service Name                             Host             User-Defined Mode
---------------------------------------------------------------------------
Age of Empires                           unassigned                    server
AIM Talk                                 unassigned                    client
Aliens vs. Predator                      unassigned                    server
..
MSN Messenger                            192.168.1.64                  server
...
=>service host disable name="MSN Messenger"
=>service host list
Service Name                             Host             User-Defined Mode
---------------------------------------------------------------------------
Age of Empires                           unassigned                    server
AIM Talk                                 unassigned                    client
Aliens vs. Predator                      unassigned                    server
..
MSN Messenger                            unassigned                    server
...
=>
```

RELATED COMMANDS:

service host assign	Assign a host service to a LAN device.

service host flush

Flush all host services.

SYNTAX:

```
service host flush
```

service host list

Display a list of host services.

SYNTAX:

```
service host list  [name = <quoted string>]
```

where:

name	The name of the host service to be listed. **Note** If not specified, all the host services will be listed.	REQUIRED

EXAMPLE:

```
=>service host list
Service Name                             Host             User-Defined Mode
---------------------------------------------------------------------------
Aliens vs. Predator                      unassigned                    server
Asheron's Call                           unassigned                    client
Battlecom                                unassigned                    server
Black and White                          unassigned                    server
Buddy Phone                              unassigned                    client
Bungie.net                               unassigned                    server
Citrix Metaframe                         unassigned                    client
CU-SeeMe                                 unassigned                    client
Dark Reign 2                             unassigned                    server
...
Westwood Online                          unassigned                    client
Yahoo Messenger Chat                     unassigned                    server
=>
=>service host list name="MSN Messenger"
Service Name:"MSN Messenger" Host:unassigned User-Defined:no Mode:server
-------------------------------------------------------------------
Port 1863 for protocol tcp will be forwarded to host port 1863
Portrange 6891 - 6900 for protocol tcp will be forwarded to host portrange 6891 - 6900
Port 6901 for protocol tcp or udp will be forwarded to host port 6901
=>
```

RELATED COMMANDS:

service host add	Add a host service.
service host delete	Delete a host service.

service host stats

Show the host service statistics.

SYNTAX:

```
service host stats
```

EXAMPLE:

```
=>service host stats
Services     : 113 of 150 in use.
Service maps : 225 of 300 in use.
Trigger ports: 0 of 25 in use.
=>
```

service host triggerlist

List all triggers.

SYNTAX:

```
service host triggerlist
```

EXAMPLE:

```
=>service triggerlist
Ip                   Triggerport          Portrange            Timeout
--                   -----------          ---------            -------
=>
```

service host rule add

Create/define a host service portmap.

SYNTAX:

```
service host rule add  name = <quoted string>
                       [protocol = <{any|tcp|udp} or number>]
                       [baseport = <supported UDP port | number>]
                       portrange = <port-range>
                       [triggerport = <supported UDP port | number>]
                       [triggerprotocol = <{any|tcp|udp} or number>]
```

where:

name	The name of the host service.	REQUIRED
protocol	The IP protocol type. Choose between: - any - tcp - udp - a number.	OPTIONAL
baseport	The inbound base port. Select one of the supported TCP/UDP port names (see “ Supported TCP/UDP Port Names” on page 613) or, alternatively, specify the port number. **Note** If not specified, ***baseport*** is equal to the first port of ***portrange***.	OPTIONAL
portrange	The outbound port range.	REQUIRED
triggerport	The outbound trigger port. Select one of the supported TCP/UDP port names (see “ Supported TCP/UDP Port Names” on page 613) or, alternatively, specify the port number.	OPTIONAL
triggerprotocol	Protocol of the trigger port. Choose between: - any - tcp - udp - a number. **Note** If not specified, ***triggerprotocol*** is equal to ***protocol***.	OPTIONAL

RELATED COMMANDS:

service host rule delete	Delete a host service portmap.

service host rule delete

Delete a host service portmap.

SYNTAX:

```
service host rule delete  name = <quoted string>
                          [protocol = <{any|tcp|udp} or number>]
                          [baseport = <supported UDP port | number>]
                          portrange = <port-range>
                          [triggerport = <supported UDP port | number>]
                          [triggerprotocol = <{any|tcp|udp} or number>]
```

where:

name	The name of the host service.	REQUIRED
protocol	The IP protocol type. Choose between: - any - tcp - udp - a number.	OPTIONAL
baseport	The inbound base port. Select one of the supported TCP/UDP port names (see " Supported TCP/UDP Port Names" on page 613) or, alternatively, specify the port number. **Note** If not specified, ***baseport*** is equal to the first port of ***portrange***.	OPTIONAL
portrange	The outbound port range.	REQUIRED
triggerport	The outbound trigger port. Select one of the supported TCP/UDP port names (see " Supported TCP/UDP Port Names" on page 613) or, alternatively, specify the port number.	OPTIONAL
triggerprotocol	Protocol of the trigger port. Choose between: - any - tcp - udp - a number. **Note** If not specified, ***triggerprotocol*** is equal to ***protocol***.	OPTIONAL

RELATED COMMANDS:

service host rule add	Create/define a host service portmap.

service system ifadd

Add an interface group to the access list.

SYNTAX:

```
service system ifadd   name = <string>
                       group = <{wan|local|lan|tunnel|dmz|guest} or number>
```

where:

name	The name of the system service for this access list.	REQUIRED
group	The interface group for this access list.	REQUIRED

EXAMPLE:

```
=>service system list name=SIPPBX expand=enabled
Idx Name             Protocol         SrcPort  DstPort  Group            State
---------------------------------------------------------------------------------
  1 SIPPBX           udp                       5060                      disabled
                 Description................ SIP PBX, registrar and proxy
                 Properties................. server
                 Managed parameters......... state port acl map log
                 Source Ip Selection........ auto
                 Interface Access List...... any
                 Ip Access List............. any
                 NAT Port List.............. 5060
=>service system ifadd name=SIPPBX group=lan
=>service system list name=SIPPBX expand=enabled
Idx Name             Protocol         SrcPort  DstPort  Group            State
---------------------------------------------------------------------------------
  1 SIPPBX           udp                       5060                      disabled
                 Description................ SIP PBX, registrar and proxy
                 Properties................. server
                 Managed parameters......... state port acl map log
                 Source Ip Selection........ auto
                 Interface Access List...... lan
                 Ip Access List............. any
                 NAT Port List.............. 5060
=>
```

RELATED COMMANDS:

service system ifdelete	Delete an interface group from the access list.

service system ifdelete

Delete an interface group from the access list.

SYNTAX:

```
service system ifdelete  name = <string>
                         group = <{wan|local|lan|tunnel|dmz|guest} or number>
```

where:

name	The name of the system service for this access list.	REQUIRED
group	The interface group for this access list.	REQUIRED

EXAMPLE:

```
=>service system list name=SIPPBX expand=enabled
Idx Name             Protocol         SrcPort  DstPort  Group            State
---------------------------------------------------------------------------------
  1 SIPPBX           udp                       5060                      disabled
                 Description................ SIP PBX, registrar and proxy
                 Properties................. server
                 Managed parameters......... state port acl map log
                 Source Ip Selection........ auto
                 Interface Access List...... lan
                 Ip Access List............. any
                 NAT Port List.............. 5060
=>service system ifdelete name=SIPPBX group=lan
=>service system list name=SIPPBX expand=enabled
Idx Name             Protocol         SrcPort  DstPort  Group            State
---------------------------------------------------------------------------------
  1 SIPPBX           udp                       5060                      disabled
                 Description................ SIP PBX, registrar and proxy
                 Properties................. server
                 Managed parameters......... state port acl map log
                 Source Ip Selection........ auto
                 Interface Access List...... any
                 Ip Access List............. any
                 NAT Port List.............. 5060
=>
```

RELATED COMMANDS:

service system ifadd	Add an interface group to the access list.

service system ipadd

Add an IP address (range) to the access list.

SYNTAX:

```
service system ipadd   name = <string>
                       ip = <ip-range>
```

where:

name	The name of the system service for this access list.	REQUIRED
ip	The IP address (range) for this access list.	REQUIRED

EXAMPLE:

```
=>service system list name=SIPPBX expand=enabled
Idx Name             Protocol         SrcPort  DstPort  Group            State
---------------------------------------------------------------------------------
  1 SIPPBX           udp                       5060                      disabled
                 Description................ SIP PBX, registrar and proxy
                 Properties................. server
                 Managed parameters......... state port acl map log
                 Source Ip Selection........ auto
                 Interface Access List...... any
                 Ip Access List............. any
                 NAT Port List.............. 5060
=>service system ipadd name=SIPPBX ip=192.168.1.64
=>service system list name=SIPPBX expand=enabled
Idx Name             Protocol         SrcPort  DstPort  Group            State
---------------------------------------------------------------------------------
  1 SIPPBX           udp                       5060                      disabled
                 Description................ SIP PBX, registrar and proxy
                 Properties................. server
                 Managed parameters......... state port acl map log
                 Source Ip Selection........ auto
                 Interface Access List...... any
                 Ip Access List............. 192.168.1.64
                 NAT Port List.............. 5060
=>
```

RELATED COMMANDS:

service system ipdelete	Delete an IP address (range) from the access list.

service system ipdelete

Delete an IP address (range) from the access list.

SYNTAX:

```
service system ipdelete   name = <string>
                          ip = <ip-range>
```

where:

name	The name of the system service for this access list.	REQUIRED
ip	The IP address (range) for this access list.	REQUIRED

EXAMPLE:

```
=>service system list name=SIPPBX expand=enabled
Idx Name             Protocol         SrcPort  DstPort  Group            State
---------------------------------------------------------------------------------
  1 SIPPBX           udp                       5060                      disabled
                 Description................ SIP PBX, registrar and proxy
                 Properties................. server
                 Managed parameters......... state port acl map log
                 Source Ip Selection........ auto
                 Interface Access List...... any
                 Ip Access List............. 192.168.1.64
                 NAT Port List.............. 5060
=>service system ipdelete name=SIPPBX ip=192.168.1.64
=>service system list name=SIPPBX expand=enabled
Idx Name             Protocol         SrcPort  DstPort  Group            State
---------------------------------------------------------------------------------
  1 SIPPBX           udp                       5060                      disabled
                 Description................ SIP PBX, registrar and proxy
                 Properties................. server
                 Managed parameters......... state port acl map log
                 Source Ip Selection........ auto
                 Interface Access List...... any
                 Ip Access List............. any
                 NAT Port List.............. 5060
=>
```

RELATED COMMANDS:

service system ipadd	Add an IP address (range) to the access list.

service system list

Display the system services.

SYNTAX:

```
service system list  [name = <string>]
                     [expand = <{disabled | enabled}>]
                     [dynamics = <{disabled | enabled}>]
                     [members = <{disabled | enabled}>]
```

where:

name	The name of the system service to be displayed. **Note** If not specified, all the system services will be displayed.	OPTIONAL
expand	Enable or disable expanded listing. The default is ***disabled***.	OPTIONAL
dynamics	Display dynamic sevices. The default is ***disabled***.	OPTIONAL
members	Display service group members. The default is ***disabled***.	OPTIONAL

EXAMPLE:

```
=>service system list
Idx Name             Protocol         SrcPort  DstPort  Group            State
---------------------------------------------------------------------------------
  1 DNS-C            udp                       53                        enabled
  2 SNTP             udp              123      123                       enabled
  3 SLA_ICMP_PING    icmp                      8                         enabled
  4 SLA_UDP_PING     udp                       7                         enabled
  5 SLA_ICMP_TRRT    icmp                      8                         enabled
  6 SLA_UDP_TRRT     udp                       33434                     enabled
  7 SYSLOG           udp                       514                       enabled
  8 HTTP             tcp                       80                        enabled
  9 HTTPs            tcp                       443                       enabled
 10 HTTPI            tcp                       8080                      enabled
 11 FTP              tcp                       21                        enabled
 12 TELNET           tcp                       23                        enabled
 13 RIP              udp              520      520                       enabled
 14 RIP-Query        udp                       520                       enabled
 15 DNS-S            udp                       53                        enabled
 16 Dynamic DNS                                                          enabled
 17 DHCP-S           udp                       49152                     disabled
 18 SNMP_AGENT       udp                       161                       enabled
 19 SNMP_TRAPS       udp                                                 enabled
 20 MDAP             udp                       3235                      enabled
 21 SIPPBX           udp                       5060                      disabled
 22 IKE              udp                       500                       enabled
 23 IP_COMMANDS                                                          enabled
 24 PING_RESPONDER   icmp                      8                         enabled
=>
=>service system list name=SIPPBX expand=enabled
Idx Name             Protocol         SrcPort  DstPort  Group            State
---------------------------------------------------------------------------------
  1 SIPPBX           udp                       5060                      disabled
                 Description................ SIP PBX, registrar and proxy
                 Properties................. server
                 Managed parameters......... state port acl map log
                 Source Ip Selection........ auto
                 Interface Access List...... any
                 Ip Access List............. any
                 NAT Port List.............. 5060
=>
```

RELATED COMMANDS:

service system modify	Modify a system service.

service system mapadd

Add a port map for a system service.

SYNTAX:

```
service system mapadd  name = <{string}>
                       intf = <{auto|loop|Internet|LocalNetwork}>
                       port = <supported port or number>
```

where:

name	The name of the system service for this map.	REQUIRED
intf	The interface for this map.	REQUIRED
port	The port for this map. Select one of the supported TCP/UDP port names (see “ Supported TCP/UDP Port Names” on page 613) or, alternatively, specify the port number.	REQUIRED

RELATED COMMANDS:

service system mapdelete	Delete a port map for a system service.

service system mapdelete

Delete a port map for a system service.

SYNTAX:

```
service system mapdelete  name = <string>
                          intf = <{auto|loop|Internet|LocalNetwork}>
                          port = <supported port or number>
```

where:

name	The name of the system service for this map.	REQUIRED
intf	The interface for this map.	REQUIRED
port	The port for this map. Select one of the supported TCP/UDP port names (see “ Supported TCP/UDP Port Names” on page 613) or, alternatively, specify the port number.	REQUIRED

RELATED COMMANDS:

service system mapadd	Add a port map for a system service.

service system modify

Modify a system service.

SYNTAX:

```
service system modify  name = <string>
                       [state = <{disabled | enabled}>]
                       [port = <supported port or number>]
                       [srcintf = <string>]
                       [log = <{disabled|enabled}>]
                       [forward = <{disabled|enabled}>]
```

where:

name	The name of the system service for this map.	REQUIRED
state	Disable or enable this system service.	OPTIONAL
port	The port for this map. Select one of the supported TCP/UDP port names (see " Supported TCP/UDP Port Names" on page 613) or, alternatively, specify the port number.	OPTIONAL
srcintf	The primary IP interface for this system service.	OPTIONAL
log	Disable or enable service logging	OPTIONAL
forward	Disable or enable service forwarding	OPTIONAL

RELATED COMMANDS:

service system list	Display the system services.

SNMP Commands

Introduction

This chapter describes the commands of the `snmp` command group.

Contents

This chapter covers the following commands:

snmp config

Show/set global Simple Network Management Protocol (SNMP) parameters.

SYNTAX:

```
snmp config   [sysContact = <quoted string>]
              [sysName = <quoted string>]
              [sysLocation = <quoted string>]
```

where:

sysContact	The SNMP system contact. The default is ***Service Provider***.	OPTIONAL
sysLocation	The SNMP system location. The default is ***Customer Premises***.	OPTIONAL

snmp get

Get from the supplied SNMP Object IDentifier (OID).

For example: get ObjectId=.1.3.6.1.2.1.1.1.0.

SYNTAX:

```
snmp get  [ObjectId = <string>]
```

where:

ObjectID	The Object Identifier. Object ID to get from ... must include the instance which is 0 for scalar objects, for example .1.3.6.1.2.1.1.1.0 sysDescription. **Note** If not specified, the sysDescription OID .1.3.6.1.2.1.1.1.0 is assumed. Its value is SpeedTouch™.	OPTIONAL

RELATED COMMANDS:

snmp getnext	GetNext from the supplied SNMP OID.
snmp walk	Walk from the supplied SNMP OID.

snmp getnext

GetNext from the supplied SNMP OID.

SYNTAX:

```
snmp getnext   [ObjectId = <string>]
```

where:

ObjectID	The Object Identifier. Object ID to getnext from for example .1.3.6.1.2.1.1 system returns sysDescription.	OPTIONAL

EXAMPLE:

```
=>snmp getnext ObjectId=.1.3.6.1.2.1.1.4.0
VB_octetStr   .1.3.6.1.2.1.1.5.0                  Sascha
=>
```

RELATED COMMANDS:

snmp get	Get from the supplied SNMP Object IDentifier (OID).
snmp walk	Walk from the supplied SNMP OID.

snmp walk

Walk from the supplied SNMP OID.

SYNTAX:

```
snmp walk   [ObjectId = <string>]
```

where:

ObjectID	The Object Identifier. Object ID to walk from for example .1.3.6.1.2.1.1 system walks the system group.	OPTIONAL

EXAMPLE:

```
=>snmp walk ObjectId=.1.3.6.1.2.1.1
VB_octetStr   .1.3.6.1.2.1.1.1.0                  SpeedTouch™
VB_objId      .1.3.6.1.2.1.1.2.0                  .1.3.6.1.4.1.637.61.2
VB_timeTicks  .1.3.6.1.2.1.1.3.0                  2927636
VB_octetStr   .1.3.6.1.2.1.1.4.0                  Service Provider
VB_octetStr   .1.3.6.1.2.1.1.5.0                  Sascha
VB_octetStr   .1.3.6.1.2.1.1.6.0                  Customer Premises
VB_integer    .1.3.6.1.2.1.1.7.0                  72
=>
```

RELATED COMMANDS:

snmp get	Get from the supplied SNMP Object IDentifier (OID).
snmp getnext	GetNext from the supplied SNMP OID.

snmp community add

Configure an SNMP community string to allow SNMP access over IP.

SYNTAX:

```
snmp community add  securityname = <{RWCommunity | ROCommunity}>
                    communityname = <password>
```

where:

securityname	Configure access rights/restrictions control for the community name. Choose between: - ***RWCommunity***: read/write access rights - ***ROCommunity***: read only access rights.	REQUIRED
communityname	Configure the SNMP community name.	REQUIRED

EXAMPLE:

```
=>snmp community add
securityname = RWCommunity
communityname = *******
Please retype communityname for verification.
communityname = *******
:snmp community add securityname=RWCommunity communityname=_DEV_2C6A78E1C41E7B01
=>snmp community add
securityname = ROCommunity
communityname = ******
Please retype communityname for verification.
communityname = ******
:snmp community add securityname=ROCommunity communityname=_DEV_184B05F89719A74E
=>
```

RELATED COMMANDS:

snmp community delete	Delete an SNMP community string to prevent SNMP access over IP.
snmp community list	List all SNMP community strings in use for SNMP access over IP.

snmp community delete

Delete an SNMP community string to prevent SNMP access over IP.

SYNTAX:

```
snmp community delete  securityname = <{RWCommunity | ROCommunity}>
```

where:

securityname	Select the access rights/restrictions control for the community name to be deleted. Choose between: ▸ ***RWCommunity***: read/write access rights ▸ ***ROCommunity***: read only access rights.	REQUIRED

EXAMPLE:

```
=>snmp community list

Read-write SNMP community name  :  *****
Read-only  SNMP community name  :  *****
=>snmp community delete securityname=ROCommunity
=>snmp community list

Read-write SNMP community name  :  *****
Read-only  SNMP community name  :  not  specified
=>
```

RELATED COMMANDS:

snmp community add	Configure an SNMP community string to allow SNMP access over IP.
snmp community list	List all SNMP community strings in use for SNMP access over IP.

snmp community list

List all SNMP community strings in use for SNMP access over IP.

SYNTAX:

```
snmp community list
```

EXAMPLE:

```
=>snmp community list

Read-write SNMP community name  :  *****
Read-only  SNMP community name  :  *****
=>
```

RELATED COMMANDS:

snmp community add — Configure an SNMP community string to allow SNMP access over IP.

snmp community delete — Delete an SNMP community string to prevent SNMP access over IP.

snmp community modify

Modify an SNMP community string to allow SNMP access over IP.

SYNTAX:

```
snmp community modify  securityname = <{RWCommunity | ROCommunity}>
                       communityname = <password>
```

where:

securityname	Configure access rights/restrictions control for the community name. Choose between: ▸ ***RWCommunity***: read/write access rights ▸ ***ROCommunity***: read only access rights.	REQUIRED
communityname	Configure the SNMP community name.	REQUIRED

snmp ifadd

Create a new SNMP interface.

SYNTAX:

`snmp ifadd`	`intf = <string>`
	`dest = <string>`

where:

intf	The name for the new SNMP interface.	REQUIRED
dest	The destination interface for this SNMP interface.	REQUIRED

EXAMPLE:

```
=>snmp ifadd
intf = new
dest = Internet
:snmp ifadd intf=new dest=Internet
=>
```

RELATED COMMANDS:

snmp ifdelete	Delete an SNMP interface.
snmp ifattach	Attach an SNMP interface.
snmp ifdetach	Detach an SNMP interface.
snmp ifconfig	Modify an SNMP interface.
snmp iflist	Display the SNMP interfaces.

snmp ifdelete

Delete an SNMP interface.

SYNTAX:

`snmp ifdelete`	`intf = <string>`

where:

intf	The name of the SNMP interface.	REQUIRED

EXAMPLE:

```
=>snmp ifdelete
intf = new
:snmp ifdelete intf=new
=>
```

RELATED COMMANDS:

snmp ifadd	Create a new SNMP interface.
snmp ifattach	Attach an SNMP interface.
snmp ifdetach	Detach an SNMP interface.
snmp ifconfig	Modify an SNMP interface.
snmp iflist	Display the SNMP interfaces.

snmp ifattach

Attach an SNMP interface.

SYNTAX:

`snmp ifattach`	`intf = <string>`

where:

intf	The name of the SNMP interface.	REQUIRED

EXAMPLE:

```
=>snmp ifattach
intf = Internet
:snmp ifattach intf=Internet
=>
```

RELATED COMMANDS:

snmp ifadd	Create a new SNMP interface.
snmp ifdelete	Delete an SNMP interface.
snmp ifdetach	Detach an SNMP interface.
snmp ifconfig	Modify an SNMP interface.
snmp iflist	Display the SNMP interfaces.

snmp ifdetach

Detach an SNMP interface.

SYNTAX:

`snmp ifdetach`	`intf = <string>`

where:

intf	The name of the SNMP interface.	REQUIRED

EXAMPLE:

```
=>snmp ifdetach
intf = Internet
:snmp ifdetach intf=Internet
=>
```

RELATED COMMANDS:

snmp ifadd	Create a new SNMP interface.
snmp ifdelete	Delete an SNMP interface.
snmp ifattach	Attach an SNMP interface.
snmp ifconfig	Modify an SNMP interface.
snmp iflist	Display the SNMP interfaces.

snmp ifconfig

Modify an SNMP interface.

SYNTAX:

`snmp ifconfig`	`intf = <string>`
	`[securityname = <{RWCommunity | ROCommunity}>]`
	`[communityname = <password>]`

where:

intf	The name of the SNMP interface to configure.	REQUIRED
securityname	Configure access rights/restrictions control for the community name. Choose between: ▶ RWCommunity ▶ ROCommunity. The default is ***RWCommunity***.	OPTIONAL
communityname	Configure SNMP community name.	OPTIONAL

EXAMPLE:

```
=>snmp ifconfig
intf = Internet
[securityname] =
[communityname] =
:snmp ifconfig intf=Internet
=>
```

RELATED COMMANDS:

snmp ifadd	Create a new SNMP interface.
snmp ifdelete	Delete an SNMP interface.
snmp ifattach	Attach an SNMP interface.
snmp ifdetach	Detach an SNMP interface.
snmp iflist	Display the SNMP interfaces.

snmp iflist

Display the SNMP interfaces.

SYNTAX:

`snmp iflist`	`[intf = <string>]`

where:

intf	The name of an SNMP interface to configure.	OPTIONAL

SNTP Commands

Introduction

This chapter describes the commands of the Simple Network Time Protocol (SNTP) command group.

Contents

This chapter covers the following commands:

sntp add

Add a Network Time Protocol (NTP) server to the NTP server list.

The internal SpeedTouch™ real time clock (SNTP client) will be synchronized with the NTP server.

SYNTAX:

```
sntp add   [addr = <ip-address>]
           [name = <string>]
           [version = <number{1-4}>]
```

where:

addr	The IP address of the NTP server to add to the list. **Note** This parameter is optional in this respect that either an IP address or the name of an NTP server must be specified.	OPTIONAL
name	The DNS name of NTP server to be added to list. If both the IP address and the DNS name are provided, the IP address is ignored. **Note** This parameter is optional in this respect that either an IP address or the name of an NTP server must be specified	OPTIONAL
version	The SNTP version of the NTP server. Select either 1, 2, 3, or 4 following NTP server supported versions. The default is ***4***.	OPTIONAL

EXAMPLE:

```
=>sntp list
IP Address         Version   Status
100.101.110.113    4         Synchronized
=>sntp add addr=100.101.110.111
=>sntp list
IP Address         Version   Status
100.101.110.111    4         contacting ...
100.101.110.113    4         Synchronized
=>
```

RELATED COMMANDS:

sntp delete	Delete an NTP server from the NTP server list.
sntp list	List the NTP servers.

sntp config

Modify/display the SNTP client configuration.

SYNTAX:

```
sntp config   [enable = <{enabled | disabled}>]
              [poll = <number{1-60}>]
```

where:

enable	Enable or disable the SpeedTouch™ SNTP client. The default is ***enabled***.	OPTIONAL
poll	A number between 1 and 60 (minutes). Represents the time interval for the SNTP client to poll the configured NTP server and, if needed, (re-)synchronize its internal clock. The default is ***60***.	OPTIONAL

EXAMPLE:

```
=>sntp config
SNTP configuration:
        state = enabled
        poll interval = 60 minute(s)
        poll interval (before first sync) = 60 minute(s)
=>
```

sntp delete

Delete an NTP server from the NTP server list.

SYNTAX:

```
sntp delete   [addr = <ip-address>]
              [name = <string>]
```

where:

addr	The IP address of the NTP server to be removed from the list. **Note** This parameter is optional in this respect that either an IP address or the name of an NTP server must be specified.	OPTIONAL
name	The DNS name of the NTP server to be removed to the list. **Note** This parameter is optional in this respect that either an IP address or the name of an NTP server must be specified.	OPTIONAL

EXAMPLE:

```
=>sntp list
IP Address         Version   Status
100.101.110.111     4        contacting ...
100.101.110.113     4        Synchronized
=>sntp del addr=100.101.110.111
=>sntp list
IP Address         Version   Status
100.101.110.113     4        Synchronized
=>
```

RELATED COMMANDS:

sntp add	Add a Network Time Protocol (NTP) server to the NTP server list.
sntp list	List the NTP servers.

sntp flush

Flush the NTP server list and the SNTP client configuration.

SYNTAX:

```
sntp flush
```

sntp list

List the NTP servers.

SYNTAX:

```
sntp list
```

EXAMPLE:

```
=>sntp list
IP Address         Version   Status            Name
100.101.110.111     4          contacting ...
100.101.110.112     4          Unable to contact
100.101.110.113     4          Synchronized
=>
```

DESCRIPTION:

The status of an NTP server can be:

- ***Not used***: The SpeedTouch™ SNTP client is disabled. As a consequence, none of the NTP servers are used.
- ***Contacting...***: The SpeedTouch™ SNTP client is trying to contact this NTP server.
- ***Unable to contact***: The SpeedTouch™ SNTP client is unable to contact this NTP server. It may be down, or no end-to-end connectivity exists (no connection, no DSL,...).
- ***Synchronized***: The SpeedTouch™ SNTP client was able to contact this NTP server. If required the internal clock has been synchronized with this NTP server.

RELATED COMMANDS:

sntp add	Add a Network Time Protocol (NTP) server to the NTP server list.
sntp delete	Delete an NTP server from the NTP server list.

Software Commands

Introduction

This chapter describes the commands of the `software` command group.

Contents

This chapter covers the following commands:

software cleanup

Check whether a disk clean-up is required.

If necessary, garbage collection is performed.

SYNTAX:

```
software cleanup
```

RELATED COMMANDS:

software deletepassive	Delete the passive software version.
software setpassive	Mark a file as the passive software version.

software deletepassive

Delete the passive software version.

SYNTAX:

```
software deletepassive
```

RELATED COMMANDS:

software cleanup	Check whether a disk clean-up is required.
software duplicate	Duplicate the active software version as the passive software version.
software setpassive	Mark a file as the passive software version.

software download

Download parameters.

SYNTAX:

```
software download     filetype = <{firmware | configuration}>
                      url = <string>
                      [username = <string>]
                      [password = <string>]
                      filesize = <string>
                      [targetfilename = <string>]
```

where:

filetype	The type of the file to be downloaded.	REQUIRED
url	Set the HTTP URL where the file is to be found including remote filename.	REQUIRED
username	Set the name to be used to authenticate to the download server.	OPTIONAL
password	Set the password to be used to authenticate to the download server.	OPTIONAL
filesize	Set the size of the file to be downloaded.	REQUIRED
targetfilename	Set the filename used to save the file on the modem.	OPTIONAL

software duplicate

Duplicate the active software version as the passive software version.

SYNTAX:

```
software duplicate
```

RELATED COMMANDS:

software cleanup	Check whether a disk clean-up is required.
software deletepassive	Delete the passive software version.
software setpassive	Mark a file as the passive software version.

software setpassive

Mark a file as the passive software version.

Only correctly uploaded software, valid for the SpeedTouch™, can be marked as passive software.

SYNTAX:

```
software setpassive   file = <string>
```

where:

file	The filename (without directory path) of the software package.	REQUIRED

RELATED COMMANDS:

software cleanup	Check whether a disk clean-up is required.
software deletepassive	Delete the passive software version.

software switch

Switch the active and passive versions and reboot the SpeedTouch™.

Because rebooting implies a flush of all non-saved configurations, it is highly recommended to save the current configuration, for example via `:saveall` or `:config save` before executing a software switch.

SYNTAX:

```
software switch
```

RELATED COMMANDS:

software version	Display the software version.
system reboot	Reboot the SpeedTouch™.

software upgrade

Reboot the modem to initiate the SW upgrade.

New software available on a remote LAN host will be uploaded to the modem.

SYNTAX:

```
software upgrade
```

software version

Display the software version.

SYNTAX:

```
software version
```

System Commands

Introduction

This chapter describes the commands of the `system` command group.

Contents

This chapter covers the following commands:

system config

Set/change the system configuration parameters.

For a good operation of UPnP and the discovery mechanism, it is highly recommended not to change the system configuration settings.

SYNTAX:

```
system config  [upnp = <{disabled | enabled}>]
               [tr64 = <{disabled | enabled}>]
               [mdap = <{disabled | enabled}>]
               [drst = <{disabled | enabled}>]
               [led = <{green | red | orange | flash | off}>]
               [resetbutton = <{disabled | enabled}>]
               [digestauth = <{disabled | enabled}>]
               [defaultconnection = <string>]
               [rtc = <{disabled|enabled}>]
               [autosave = <{disabled | enabled}>]
               [autosavedelay = <number{0-600}>]
```

where:

upnp	Enable or disable UPnP discovery. The default is ***enabled***.	OPTIONAL
tr64	Enable or disable TR-64 discovery. The default is ***disabled***.	OPTIONAL
mdap	Enable or disable proprietary discovery protocol. The default is ***enabled***.	OPTIONAL
drst	Enable or disable DrSpeedTouch access. The default is ***disabled***.	OPTIONAL
led	Set the system LED colour. Choose between: ▸ ***green***: solid green ▸ ***red***: solid red ▸ ***orange***: solid orange ▸ ***flash***: toggle between green and orange ▸ ***off***: LED is off. The default is ***green***.	OPTIONAL
resetbutton	Enable or disable reset-to-factory-defaults pushbutton. The default is ***enabled***.	OPTIONAL
digestauth	Enable or disable HTTP digest authentication. The default is ***enabled***.	OPTIONAL
defaultconnection	The name of the default internet connection.	OPTIONAL
rtc	Enable or disable RTC. The default is ***disabled***	OPTIONAL
autosave	Enable or disable autosaves. The default is ***enabled***.	OPTIONAL

autosavedelay	A number between 0 and 600. Represents the autosave delay in seconds (0 for immediate save).	OPTIONAL

EXAMPLE:

```
=>system config
upnp discovery        : enabled
TR-64 discovery       : disabled
mdap discovery        : enabled
drst support          : disabled
reset button          : enabled
digest authentication : enabled
rtc                   : enabled
defaultconnection     : Internet
autosave              : enabled
autosave delay        : 10s
=>
```

system flush

Flush the current system configuration.

The system password and the system config settings (dcache excluded) are flushed.

The flush command does not impact previously saved configurations.

SYNTAX:

```
system flush
```

EXAMPLE:

```
=>system flush
Security notification: Password changed, use 'saveall' to make it permanent.
=>
```

system locale

Set/get the regional settings.

SYNTAX:

```
system locale   [dec_symbol = <{, | .}>]
                [group_symbol = <{. | ,}>]
                [date_separator = <{/ | - | .}>]
                [date_format = <{iso | ddmmyyyy | ddmmyy | mmddyyyy | mmddyy}>]
                [time_format = <{iso | hmmss}>]
                [datetime_format = <{iso | date+time | time+date}>]
                [duration_format = <{dhmmss | hmmss}>]
```

where:

dec_symbol	Set the decimal symbol. Choose between: - . - , The default is “,”.	OPTIONAL
group_symbol	Set the group symbol. Choose between: - . - , The default is “.”.	OPTIONAL
date_separator	Set the date separator. Choose between: - / - - - . The default is “-”.	OPTIONAL
date_format	Set the date format. Choose between: - iso - ddmmyyyy - ddmmyy - mmddyyyy - mmddyy The default is ***ddmmyyyy***. **Note** dd = day; mm = month; yyyy or yy = year.	OPTIONAL

time_format	Set the time format. Choose between: - iso - hmmss. The default is ***iso***. **Note** h = hours; mm = minutes; ss = seconds.	OPTIONAL
datetime_format	Set the date-time format. Choose between: - iso - date+time - time+date. The default is ***date+time***.	OPTIONAL
duration_format	Set the duration format. Choose between: - dhmmss - hmmss. The default is ***dhmmss***. **Note** d = days; h = hours; mm = minutes; ss = seconds.	OPTIONAL

EXAMPLE:

```
=>system locale
Decimal symbol         = ,
Digit grouping symbol  = .
Date separator         = -
Date format            = ddmmyyyy
Time format            = iso
Date-time format       = date+time
Duration format        = dhmmss
=>
```

system reboot

Reboot the SpeedTouch™.

Non-saved configuration settings will be lost after reboot.

SYNTAX:

```
system reboot
```

EXAMPLE:

```
=>system reboot
.....
(lost session connectivity due to reboot)
.....
```

system reset

Reset the SpeedTouch™ to its factory or ISP defaults and reboot the device.

All user specific settings and all saved configuration changes are lost after reboot.

SYNTAX:

```
system reset   factory yes/no = <{yes | no}>
               proceed no/yes = <{no | yes}>
```

where:

factory yes/no	Choose between: ▶ yes: delete user and ISP specific settings. ▶ no: delete user specific settins only.	REQUIRED
proceed no/yes	Confirmation for resetting the modem. If no confirmation is given, the SpeedTouch™ will not be reset.	REQUIRED

EXAMPLE:

```
=>system reset
---------------
 !! WARNING !!
---------------
The modem will be reset to (factory) defaults clearing all user (and ISP) settings.
Specifying <factory=yes> deletes user and ISP specific settings.
                         Connectivity with the ISP network might be lost.
           <factory=no>  deletes user specific settings only.
factory yes/no = no
proceed no/yes = no
:system reset factory yes/no=no proceed no/yes=no
=>
=>system reset
---------------
 !! WARNING !!
---------------
The modem will be reset to (factory) defaults clearing all user (and ISP) settings.
Specifying <factory=yes> deletes user and ISP specific settings.
                         Connectivity with the ISP network might be lost.
           <factory=no>  deletes user specific settings only.
factory yes/no = yes
proceed no/yes = yes
:system reset factory yes/no=yes proceed no/yes=yes

.....
(lost session connectivity due to reboot)
.....
```

RELATED COMMANDS:

sntp config	Modify/display the SNTP client configuration.

system debug autosave

Autosave debugging commands

SYNTAX:

```
system debug autosave                  [trace = <{disabled|enabled}>]
```

where:

trace	Enable or disable autosave traces	OPTIONAL

system debug stats

Show the SpeedTouch™ CPU and memory statistics.

SYNTAX:

```
system debug stats  [reset = <{disabled | enabled}>]
```

where:

reset	Reset the CPU statistics. The default is ***disabled***.	OPTIONAL

DESCRIPTION:

- ***CHIP memory***: Memory used by the CPU (first MB from the RAM) – not cached since it has to be realtime.
- ***Application memory***: Memory used by the applications.
- ***min***: The least amount of free memory detected during the uptime of the SpeedTouch™.

system ra config

Configure Remote management access parameters.

SYNTAX:

```
system ra config      [secure = <{disabled | enabled}>]
                      [port = <number>]
                      [timeout = <number>]
```

where:

secure	Enable or disable https. The default is ***enabled***.	OPTIONAL
port	Set the destination port for remote access. The default is ***51003***.	OPTIONAL
timeout	Set the connection timeout in minutes.	OPTIONAL

EXAMPLE:

```
=>system ra config
Remote management access configuration

Remote access port   : 51003
Secure remote access : enabled
=>
```

system rtc synchronize

Do a SNTP update and synchronize the realtime clock.

SYNTAX:

```
system rtc synchronize
```

system rtc settime

Set/get date, time, timezone, daylight savings time, uptime.

When synchronization with an external NTP server via the SpeedTouch™ SNTP client fails, this command allows to manually configure its internal clock.

In cases without regular synchronization, accurate realtime clock settings can not be guaranteed.

SYNTAX:

```
system rtc settime  [date = <dd/mm/yyyy>]
                    [time = <hh:mm:ss>]
                    [timezone = <(+ or -)hh:mm>]
                    [daylightsaving = <{disabled | enabled}>]
```

where:

date	The system date formatted as dd/mm/yyyy. **Note** If not specified, the current date is preserved.	OPTIONAL
time	The system time formatted as hh:mm:ss. **Note** If not specified, the current time is preserved.	OPTIONAL
timezone	The system timezone formatted as (+ or -)hh:mm. Valid timezones are possible from -12:00 to +14:00 with a resolution of 15 minutes. **Note** If not specified, the current timezone is preserved.	OPTIONAL
daylightsaving	Enable or disable daylight saving. The default is ***disabled***. **Note** If not specified, the current daylight saving setting is preserved.	OPTIONAL

EXAMPLE:

```
=>system settime
date = 31/01/2005
time = 18:05:16
timezone = +00:00
daylightsaving = off
=>
```

Systemlog Commands

Introduction

This chapter describes the commands of the `systemlog` command group.

Contents

This chapter covers the following commands:

systemlog flush

Flush all messages in the internal Syslog message buffer.

SYNTAX:

```
systemlog flush
```

systemlog show

Show messages in the internal Syslog message buffer.

SYNTAX:

```
systemlog show  [fac = <supported facility name>]
                [sev = <supported severity name>]
                [hist = <{disabled | enabled}>]
```

where:

fac	Specify the facility name of the syslog messages to be shown. Use one of the supported facility names (see “ Supported Facilities” on page 617). **Note** If not specified, the messages of all the facilities will be shown.	OPTIONAL
sev	Specify the lowest priority severity of the syslog messages to be shown. All the syslog messages with severity as specified or higher will be shown. Use one of the supported severity names (see “ Supported Severities” on page 618). **Note** If not specified, the messages of all the severities will be shown.	OPTIONAL
hist	Show messages over several SpeedTouch™ reboots (enabled) or show only messages since latest startup (disabled). **Note** If not specified, only the recent messages will be shown.	OPTIONAL

EXAMPLE:

```
=>syslog msgbuf show fac=kern sev=emerg hist=enabled
<0> SysUpTime: 14:45:43 KERNEL Controlled restart (after internal error or explicit system reboot)
<0> SysUpTime: 02:58:18 KERNEL Controlled restart (after internal error or explicit system reboot)
<0> SysUpTime: 04 days 04:52:37 KERNEL Controlled restart (after internal error or explicit system
 reboot)
<0> SysUpTime: 00:00:41 KERNEL Controlled restart (after internal error or explicit system reboot)

=>syslog msgbuf show fac=kern sev=warning hist=enabled
<4> SysUpTime: 00:00:00 KERNEL Cold restart
<0> SysUpTime: 14:45:43 KERNEL Controlled restart (after internal error or explicit system reboot)
<4> SysUpTime: 00:00:00 KERNEL Warm restart
<0> SysUpTime: 02:58:18 KERNEL Controlled restart (after internal error or explicit system reboot)
<4> SysUpTime: 00:00:00 KERNEL Warm restart
<0> SysUpTime: 04 days 04:52:37 KERNEL Controlled restart (after internal error or explicit system
 reboot)
<4> SysUpTime: 00:00:00 KERNEL Warm restart
<0> SysUpTime: 00:00:41 KERNEL Controlled restart (after internal error or explicit system reboot)
=>
```

systemlog send

Send messages from the internal Syslog message buffer to a specified local or remote syslog server host.

There will be no notification on whether the host has received the messages or not.

SYNTAX:

```
systemlog send   [fac = <supported facility name>]
                 [sev = <supported severity name>]
                 [hist = <{disabled | enabled}>]
                 dest = <ip-address>
```

where:

fac	Specify the facility name of the syslog messages to show. Use one of the supported facility names (see " Supported Facilities" on page 617). **Note** If not specified, the messages of all the facilities will be shown.	OPTIONAL
sev	Specify the lowest priority severity of the syslog messages to be shown. All the syslog messages with severity as specified or higher will be shown. Use one of the supported severity names (see " Supported Severities" on page 618). **Note** If not specified, the messages of all the severities will be shown.	OPTIONAL
hist	Show messages over several SpeedTouch™ reboots (disabled) or show only messages since latest startup (enabled). **Note** If not specified, only the recent messages will be shown.	OPTIONAL
dest	The IP address of the remote host on the local or remote network, in other words, the collector's IP address, to send the syslog messages to.	REQUIRED

UPnP Commands

Introduction

This chapter describes the commands of the **upnp** command group.

Contents

This chapter covers the following commands:

upnp config

Configure the UPnP™ parameter(s).

SYNTAX:

```
upnp config   [maxage = <number{60-999999}>]
              [writemode = <{full | natonly | readonly}>]
              [safenat = <{disabled | enabled}>]
              [preferredaddress = <ip-address>]
              [httpport = <number{1-65535}>]
```

where:

maxage	A number between 60 and 999999. This parameter allows to configure how often the SpeedTouch™ sends a notification message to advertise its presence as an Internet Gateway Device (IGD) on the network. The default is ***1800***. **Note** Setting this parameter to a low value will increase the number of packets sent over time on the network, but will make the state of the device more up to date.	OPTIONAL
writemode	Choose the set of rules to limit remote access from UPnP. Choose between: ▸ ***full***: the host will accept all the UPnP SET and GET actions. ▸ ***natonly***: GET and NAT related SET actions will be accepted, all other actions will be ignored. ▸ ***readonly***: the UPnP control point will only be able to retrieve information, all the SET actions are ignored. The default is ***natonly***.	OPTIONAL
safenat	Enable or disable check on safe NAT entries. If this check is enabled, all NAT create/delete requests for a LAN side IP address different from the source IP address of the UPnP message will be discarded. The default is ***enabled***.	OPTIONAL
preferredaddress	CSV list of preferred IP address for UPnP advertisements (1 per LAN IP interface). **Note** Enter “0.0.0.0” for none.	OPTIONAL
httpport	A number between 1 and 65535. Represents the web server port. The default is ***80***.	OPTIONAL

upnp flush

Flush the UPnP™ configuration.

The UPnP configuration will be reset to the default configuration.

SYNTAX:

```
upnp flush
```

upnp list

List all registered devices.

Use this command to check whether a PPP connection is properly configured and thus advertised as a PPP service.

SYNTAX:

```
upnp list   [verbose = <number{0-2}>]
```

where:

verbose	Verbose level. The default is ***1***.	OPTIONAL

EXAMPLE:

```
=>upnp list
---------------- device: IGD.xml ------------
Advertised on: LocalNetwork (10.0.0.138)
-------------- devices/services ------------
++ Root Device: urn:schemas-upnp-org:device:InternetGatewayDevice:1
-- Service 1: urn:upnp-org:serviceId:layer3f
-- Service 2: urn:upnp-org:serviceId:lanhcm
-- Service 3: urn:upnp-org:serviceId:wancic
-- Service 4: urn:upnp-org:serviceId:wandsllc:RELAY
-- Service 5: urn:upnp-org:serviceId:wanpppc:Internet
---------------------- end -----------------
=>
```

User Commands

Introduction

This chapter describes the commands of the `user` command group.

Contents

This chapter covers the following commands:

user add

Add a user.

You can only add a user whose privileges are the same or lower than your own privileges.

SYNTAX:

```
user add  name = <quoted string>
          password = <password>
          role = <string>
          [hash2 = <string>]
          [descr = <quoted string>]
          [defuser = <{disabled | enabled}>]
          [defremadmin = <{disabled | enabled}>]
          [deflocadmin = <{disabled | enabled}>]
```

where:

name	The new user name. **Note** 1. The maximum number of users is 10. 2. The maximum length is 32 characters.	REQUIRED
password	The password. **Note** The maximum length is 32 characters.	REQUIRED
role	The role name. **Tip** Use the command `:mlp role list` to obtain the role name (see “ mlp role list” on page 459 for more information).	REQUIRED
hash2	The MD5 hash. **Note** The maximum length is 32 characters.	OPTIONAL
descr	A user description. **Note** The maximum length is 63 characters.	OPTIONAL
defuser	Set this user as the default user (enabled) or not (disabled). **Note** When the Web interface is accessed, the account of this user will be used by default. The user will not need to authenticate himself with user name or password. The default is ***disabled***.	OPTIONAL
defremadmin	Set this user as the default remote administrator (enabled) or not (disabled). The default is ***disabled***.	OPTIONAL
deflocadmin	Set this user as the default local administrator (enabled) or not (disabled). The default is ***disabled***.	OPTIONAL

EXAMPLE:

In the example below, the user Administrator creates a new user JohnDoe. This user has lower access rights than the user “Poweruser”.

```
{Administrator}=>user list
User                              Flags Role
----                              ----- ----
Administrator                     U     Administrator
tech                              R     TechnicalSupport
{Administrator}[user]=>add
name = JohnDoe
password = ****
Please retype password for verification.
password = ****
role = Administrator
[hash2] =
[descr] =
[defuser] =
[defremadmin] =
:user add name=JohnDoe password=_CYP_x9O/lhxuRyMME role=Administrator
{Administrator}=>user list
User                              Flags Role
----                              ----- ----
Administrator                     U     Administrator
tech                              R     TechnicalSupport
JohnDoe                                 Administrator
{Administrator}=>
```

DESCRIPTION:

- ***U***: indicates the default user.
- ***R***: indicates the default remote administrator.

RELATED COMMANDS:

user delete	Delete a user.
user list	Display the users.

user config

Modify a user.

You can only modify a user whose privileges are the same or lower than your own privileges.

SYNTAX:

```
user config  name = <string>
             [password = <password>]
             [role = <string>]
             [descr = <quoted string>]
             [defuser = <{disabled | enabled}>]
             [defremadmin = <{disabled | enabled}>]
             [deflocadmin = <{disabled | enabled}>]
```

where:

name	The user name.	REQUIRED
password	The password. **Note** The maximum length is 32 characters.	OPTIONAL
role	The role name. **Tip** Use the command `:mlp role list` to obtain the role names (see " mlp role list" on page 459 for more information).	OPTIONAL
descr	A user description. **Note** The maximum length is 63 characters.	OPTIONAL
defuser	Set this user as the default user (enabled) or not (disabled). **Note** When the Web interface is accessed, the account of this user will be used by default. The user will not need to authenticate himself with user name or password. The default is ***disabled***.	OPTIONAL
defremadmin	Set this user as the default remote administrator (enabled) or not (disabled). The default is ***disabled***.	OPTIONAL
deflocadmin	Set this user as the default local administrator (enabled) or not (disabled). The default is ***disabled***.	OPTIONAL

EXAMPLE:

```
{Superuser}=>user list
                User                 Role
                ====                 ====
           Superuser                 root
          aPoweruser            Poweruser

{Superuser}=>user config name=aPoweruser role=LAN_admin
{Superuser}=>user list
                User                 Role
                ====                 ====
           Superuser                 root
          aPoweruser            LAN_admin

{Superuser}=>
```

user delete

Delete a user.

You can only delete a user whose privileges are the same or lower than your own privileges.

SYNTAX:

```
user delete  name = <string>
```

where:

name	The name of the user to be deleted.	REQUIRED

EXAMPLE:

```
{Administrator}=>user list
User                              Flags Role
----                              ----- ----
Administrator                     U     Administrator
tech                              R     TechnicalSupport
JohnDoe                                 Administrator

{Administrator}=>user delete name = JohnDoe
{Administrator}=>user list
User                              Flags Role
----                              ----- ----
Administrator                     U     Administrator
tech                              R     TechnicalSupport

{Administrator}=>
```

RELATED COMMANDS:

user add	Add a user.
user list	Display the users.

user flush

Flush the users.

After execution of this command, the access to the SpeedTouch™ will no longer be protected by a password. The first user that logs on, after initiating a new Telnet session, will have the same administrative rights as a user with the role ***root***.

SYNTAX:

```
user flush
```

EXAMPLE:

```
{Administrator}=>user list
User                              Flags Role
----                              ----- ----
Administrator                     U     Administrator
tech                              R     TechnicalSupport
JohnDoe                                 Administrator

{Administrator}=>user flush
{Administrator}=>user list

{Administrator}=>
```

When this Telnet session is terminated and a new Telnet session is initiated, the following welcome screen will appear:

```
Username :
------------------------------------------------------------------------
*
*                             ______  SpeedTouch 620
*                         ___/_____/\
*                        /         /\\  Version 5.3.0.10
*                  _____/__       /  \\
*                _/       /\_____/___ \  Copyright (c) 1999-2004,
*               //       /  \       /\ \              THOMSON
*       _______//_______/    \     / _\/______
*      /      / \       \    /    / /        /\
*   __/      /   \       \  /    / /        / _\__
*  / /      /     \_______\/    / /        / /   /\
* /_/______/___________________/ /________/ /___/  \
* \ \      \    ___________    \ \        \ \   \  /
*  \_\      \  /          /\    \ \        \ \___\/
*     \      \/          /  \    \ \        \  /
*      \_____/          /    \    \ \________\/
*           /__________/      \    \  /
*           \   _____  \      /_____\/
*            \ /    /\  \    /___\/
*             /____/  \  \  /
*             \    \  /___\/
*              \____\/
*
------------------------------------------------------------------------
=>
```

The user will not have to authenticate himself to gain access to the SpeedTouch™.

user list

Display the users.

SYNTAX:

```
user list   [name = <string>]
            [channel = <{ftp | telnet | http | mdap | serial}>]
            [origin = <{lan | wan | local}>]
            [secure = <{disabled | enabled}>]
```

where:

name	The user name. **Note** If not specified, all the users will be listed.	OPTIONAL
channel	The selected channel. Choose between: ▸ ftp ▸ telnet ▸ http ▸ mdap ▸ serial. **Note** If not specified, all the channels will be listed.	OPTIONAL
origin	The selected origin. Choose between: ▸ lan ▸ wan ▸ local. **Note** If not specified, all the origins will be listed.	OPTIONAL
secure	The selected security level. Choose between: ▸ disabled ▸ enabled. **Note** If not specified, all the security levels will be listed.	OPTIONAL

EXAMPLE:

```
{Administrator}=>user list
User                              Flags Role
----                              ----- ----
Administrator                     U     Administrator
tech                              R     TechnicalSupport

{Administrator}=>user list name=tech channel=http origin=wan
service(s): r_lan, r_wan, r_fs_view, r_fs_retrieve, r_rtg, r_fwdg, r_nat, r_frwl,
   r_ipsec_norm, r_ipsec_adv, r_certificates, r_remote_mgnt, r_local, r_qos,
   w_lan, w_wan, w_fs_passive, w_rtg, w_fwdg, w_nat, w_frwl_norm, w_frwl_adv,
   w_frwe_mgnt, w_ipsec, w_certificates, w_remote_mgnt, w_local, w_qos,
   snd_lan, snd_wan, snd_local, and_lan, and_wan, and_frwl, and_local,
   user_admin, mlp_admin, secure_ipsec_term, secure_br, cli, cgi, ftp, mdap,
   zone_45, zone_46, zone_47, zone_48, zone_49, zone_50, zone_51, zone_52,
   zone_53, zone_54, zone_55, zone_56, zone_57, zone_58, zone_59, zone_60,
   zone_61, zone_62, swk_activation, sensitve_file, zone_71, zone_72, zone_73,
   zone_74, zone_75, zone_76, zone_77, zone_78, zone_79, zone_83, zone_84,
   zone_85, zone_86, zone_87, zone_88, zone_89, zone_90, zone_91, zone_92,
   traces

{Administrator}=>
```

RELATED COMMANDS:

user add	Add a user.
user delete	Delete a user.

user rights

Display the session rights.

The user rights of the currently logged-in user are shown.

SYNTAX:

```
user rights
```

EXAMPLE:

```
{Administrator}=>user rights
Current session info:
 user:       name='Administrator', role='Administrator'
 access:     lan (origin_lan), telnet (channel_telnet), unsecure (unsecure_connection)
 service(s): r_lan, r_wan, r_fs_view, r_fs_retrieve, r_rtg, r_fwdg, r_nat, r_frwl,
   r_ipsec_norm, r_ipsec_adv, r_certificates, r_remote_mgnt, r_local, r_qos,
   w_lan, w_wan, w_fs_passive, w_rtg, w_fwdg, w_nat, w_frwl_norm, w_frwl_adv,
   w_frwe_mgnt, w_ipsec, w_certificates, w_remote_mgnt, w_local, w_qos,
   snd_lan, snd_wan, snd_local, and_lan, and_wan, and_frwl, and_local,
   user_admin, mlp_admin, secure_ipsec_term, secure_br, cli, cgi, ftp, mdap,
   zone_45, zone_46, zone_47, zone_48, zone_49, zone_50, zone_51, zone_52,
   zone_53, zone_54, zone_55, zone_56, zone_57, zone_58, zone_59, zone_60,
   zone_61, zone_62, swk_activation, sensitve_file, zone_71, zone_72, zone_73,
   zone_74, zone_75, zone_76, zone_77, zone_78, zone_79, zone_83, zone_84,
   zone_85, zone_86, zone_87, zone_88, zone_89, zone_90, zone_91, zone_92,
   traces

{Administrator}=>
```

Abbreviations

The table below lists all the abbreviations used in the CLI Reference Guide.

Abbreviation	Description
AAL5	ATM Adaption Layer 5
ACL	Access Control List
ADSL	Asymmetric Digital Subscriber Line
AES	Advanced Encryption System
AF	Assured Forwarding
AP	Access Point
ARP	Address Resolution Protocol
ATM	Asynchronous Transfer Mode
BSSID	Base Service Set IDentifier
CA	Certificate Authority
CAPI	Common ISDN Application Interface
CC	Continuity Check
CEP	Certificate Enrollment Protocol
CHAP	Challenge Handshake Authentication Protocol
CIDR	Classless Inter Domain Routing
CLI	Command Line Interface
CLP	Cell Loss Priority
CO	Central Office
CPE	Customer Premises Equipment
CRL	Certificate Revocation List
CTD	Conformance Traffic Descriptor
CWMP	CPE WAN Management Protocol
DHCP	Dynamic Host Configuration Protocol
DN	Distinguished Name
DNS	Domain Name System
DPD	Dead Peer Detection
DSCP	Differentiated Services Code Point
DSD	Differentiated Service Delivery
DSL	Digital Subscriber Line
ECN	Explicit Congestion Notification
EF	Expedited Forwarding
FCS	Frame Check Sequence
FTP	File Transfer Protocol
GRE	General Routing Encapsulation
GRP	Gateway Routing Protocol

Abbreviation	Description
HDLC	High-level Data Link Control
HTTP	HyperText Transfer Protocol
ICMP	Internet Control Message Protocol
IDS	Intrusion Detection System
IGD	Internet Gateway Device
IGMP	Internet Group Management Protocol
IKE	Internet Key Exchange
IP	Internet Protocol
IP oA	IP over ATM
IPCP	Internet Protocol Control Protocol
IPSec	IP Security
ISDN	Integrated Services Digital Network
ISI	Independent Set ID
KB	Kilobytes
Kbps	Kilobits per second
LAN	Local Area Network
LCP	Link Control Protocol
LDAP	Light-weight Directory Access Protocol
LLC	Logical Link Control
MAC	Medium Access Control
MC	MultiCast
MD5	Message Digest 5
MGCP	Media Gateway Control Protocol
MLP	Multi-Level access Policy
MPLS	Multiprotocol Label Switching
MTU	Maximum Transmission Unit
NAPT	Network Address and Port Translation
NAT	Network Address Translation
NLPID	Network Layer Protocol IDentifiers
NTP	Network Time Protocol
OAM	Operation and Maintenance
OBC	On Board Controller
OID	Object IDentifier
PAP	Password Authentication Protocol
PBX	Private Branch Exchange
PFS	Perfect Forward Secrecy
PKCS	Public Key Cryptography Standard
PKI	Public Key Infrastructure
POTS	Plain Old Telephone Service

Abbreviation	Description
PPP	Point-to-Point Protocol
PPPoA	PPP over ATM
PPPoE	PPP over Ethernet
PPTP	Point-to-Point Tunneling Protocol
PSD	Power Spectral Density
PSK	Pre-Shared Key
PVC	Permanent Virtual Channel
QoS	Quality of Service
RIP	Routing Information Protocol
RTC	Real Time Clock
RTT	Round Trip Time
SAs	Security Associations
SFTP	Secure File Transfer Protocol
SHDSL	Single Pair High-speed Digital Subscriber Line
SIP	Session Initiation Protocol
SLA	Service Level Agreement
SMTP	Simple Mail Transfer Protocol
SNAP	Sub Network Access Protocol
SNMP	Simple Network Management Protocol
SNR	Signal-to-Noise Ratio
SNTP	Simple Network Time Protocol
SSH	Secure SHell
SSID	Service Set IDentifier
TCP	Transmission Control Protocol
TFTP	Trivial File Transfer Protocol
TKIP	Temporal Key Integrity Protocol
ToS	Type of Service
TTL	Time To Live
UA	User Agent
UDP	User Datagram Protocol
ULP	Upper Layer Protocol
UPnP	Universal Plug and Play
URI	Uniform Resource Identifier
URL	Uniform Resource Locator
USB	Universal Serial Bus
VC	Virtual Channel
VCI	Virtual Channel Identifier
VCMUX	Virtual Channel MUltipleXing
VDSL	Very high speed Digital Subscriber Line

Abbreviation	Description
VLAN	Virtual Local Area Network
VLSM	Variable Length Subnet Masking
VP	Virtual Path
VPI	Virtual Path Identifier
VPN	Virtual Private Networking
WAN	Wide Area Network
WDS	Wireless Distribution System
WEP	Wired Equivalent Privacy
WFQ	Weighted Fair Queueing
WINS	Windows Internet Naming Service
WLAN	Wireless LAN
WPA	Wi-Fi Protected Access
WRR	Weighted Round Robin

System Logging Messages

Introduction

This chapter lists the different System Logging messages.

Contents

This chapter lists the different System Logging messages of the following modules:

Auto-PVC Module

Facility	Severity	Contents
LOCAL5	WARNING	AUTOPVC script <script_name> failed
LOCAL5	WARNING	AUTOPVC script <script_name> failed
LOCAL5	WARNING	AUTOPVC script <script_name> (name1, qosb_name) failed
LOCAL5	WARNING	AUTOPVC script <script_name> (name1, qosb_name, name2) failed
LOCAL5	WARNING	AUTOPVC script 'autopvc_change_qos (itable[i].intf, name1, qosb_name) failed
LOCAL5	WARNING	AUTOPVC script <script_name> (name1, name2) failed

Configuration Module

Facility	Severity	Contents
USER	INFO	CONFIGURATION saved after running Embedded Setup Wizard
USER	INFO	CONFIGURATION saved by user <user_id>
USER	INFO	CONFIGURATION backup by user to file <filename>
USER	INFO	CONFIGURATION <conf_version> upgraded to version <version>)
KERN	INFO	SYSTEM reset by user <user_id> to factory defaults: user settings deleted

DHCP Client Module

Facility	Severity	Contents
LOCAL2	WARNING	DHCC lease ip-address <ip-address> bound to intf <intf_id>
LOCAL2	WARNING	DHCC intf <intf_id> renews lease ip-address <ip-address>
LOCAL2	WARNING	DHCC intf <intf_id> rebinds lease ip-address <ip-address> from server<$paratext><Default ¶ Font>(<ip-address>)
LOCAL2	WARNING	DHCC offer received from <ip-address> (can be relay agent) for intf <intf_id>
LOCAL2	WARNING	DHCC server (<ip-address>) offers <ip-address> to intf <intf_id>
LOCAL2	WARNING	DHCC unable to configure ip address: <ip-address> (bootp-reply)
LOCAL2	WARNING	DHCC bootp lease ip-address <ip-address> bound to intf <intf_id> from server (<ip-address>)
LOCAL2	WARNING	DHCC <ip-address> already configured on intf <intf_id>: failure
LOCAL2	WARNING	DHCC <ip-address> (<ip-address>) set on intf <intf_id>: {faillurellok}
LOCAL2	WARNING	DHCC <ip-address> deleted: {faillurellok}

DHCP Relay Module

Facility	Severity	Contents
LOCAL2	WARNING	DHCR relay: Dropping boot rqs on interface <intf_id> due to invalid giaddr for server (<ip-address>)
LOCAL2	WARNING	DHCR relay: Dropping boot reply with invalid relay agent option from <intf_id>
LOCAL2	WARNING	DHCR relay: Dropping boot request containing the relay agent option from <intf_id>
LOCAL2	WARNING	DHCR relay: Dropping boot reply to unknown interface from <intf_id>
LOCAL2	WARNING	DHCR relay: Dropping boot reply to inactive interface <intf_id>
LOCAL2	WARNING	DHCR relay: Dropping boot reply to inactive interface <intf_id>
LOCAL2	WARNING	DHCR relay: Dropping boot request packet with spoofed giaddr field from <intf_id>
LOCAL2	WARNING	DHCR relay: Dropping boot request received on unknown interface from <intf_id>
LOCAL2	WARNING	DHCR relay: Dropping boot request on inactive interface <intf_id>
LOCAL2	WARNING	DHCR relay: Dropping boot request with invalid hops field on interface <intf_id>
LOCAL2	WARNING	DHCR relay: Dropping boot request with invalid giaddr on interface <intf_id>

DHCP Server Module

Facility	Severity	Contents
LOCAL2	WARNING	DHCS server: <DHCP Offer | DHCP ACK> cannot be send due to invalid server identifier
LOCAL2	WARNING	DHCS server: DHCPACK cannot be send due to invalid server identifier
LOCAL2	WARNING	DHCS server: DHCPNAK cannot be send due to invalid server identifier
LOCAL2	WARNING	DHCS server up
LOCAL2	WARNING	DHCS server went down

Dyndns Module

Facility	Severity	Contents
DYNDNS	WARNING	<DYNDNS_ STR_ID> Connection failed to <dyndns_service> for client <dyndns_client>
DYNDNS	WARNING	<DYNDNS_ STR_ID> Failed to resolve host name <dyndns_service> for client <dyndns_client>
DYNDNS	WARNING	<DYNDNS_ STR_ID> Server Timeout(<dyndns_service>) for client <dyndns_client>
DYNDNS	WARNING	<DYNDNS_ STR_ID> Update failed to server <dyndns_service> for client <dyndns_client>
DYNDNS	NOTICE	<DYNDNS_ STR_ID> client <dyndns_client> <"started"||"stopped">
DYNDNS	WARNING	<DYNDNS_ STR_ID> Update failed for client <dyndns_client>, incomplete configuration
DYNDNS	WARNING	<DYNDNS_ STR_ID> Update failed for client <dyndns_client> (<message>), host <hostname> has not been updated
DYNDNS	WARNING	<DYNDNS_ STR_ID> Update failed for client <dyndns_client>
DYNDNS	NOTICE	<DYNDNS_ STR_ID> Host <hostname> has been updated successfully by <dyndns_service>
DYNDNS	WARNING	<DYNDNS_ STR_ID> Authentication failed to server <dyndns_service>

Firewall Module

Facility	Severity	Contents
AUTH	WARNING	FIREWALL Hook: <hookname> Rule ID:<rule_id> Protocol: ICMP Src_ip: <ip_address> Dst_ip: <ip_address> ICMP message type: <message_type_name || message_type_id > Action: <action>
AUTH	WARNING	FIREWALL Hook: <hookname> Rule ID:<rule_id> Protocol: <protocol_name> Src_ip_port: <ip-address:ip_port> Dst_ip_port: <ip-address:ip_port> Action: <action>

LOGIN Module

Facility	Severity	Contents
AUTH	NOTICE	LOGOUT User <user_id> logged out on <connection_type> (<ip-address>)
AUTH	NOTICE	LOGOUT User <user_id> logged out on <connection_type>
AUTH	NOTICE	LOGOUT <session_name> session of user <user_id> killed (<ip-address>)
AUTH	NOTICE	LOGOUT <session_name> session of user <user_id> killed
AUTH	NOTICE	LOGIN User <user_id> tried to login on <connection_type> (from <ip-address>)
AUTH	NOTICE	LOGIN User <user_id> logged in on <connection_type> (from <ip-address>)
AUTH	NOTICE	LOGIN User logged in on <connection_type> (<ip-address>)
AUTH	NOTICE	LOGIN User <user_id> tried to log in on <connection_type>

Kernel Module

Facility	Severity	Contents
KERN	WARNING	KERNEL cold reset
KERN	WARNING	KERNEL warm reset
KERN	EMERG	KERNEL Controlled restart (after internal error or explicit system reboot)

Linestate Module

Facility	Severity	Contents
LOCAL5	NOTICE	xDSL linestate up (downstream: <bitrate_in> kbit/s, upstream: <bitrate_out> kbit/s)

LOCAL5	NOTICE	xDSL linestate up
		(downstream: <bitrate_in> kbit/s, upstream: <bitrate_out> kbit/s;
		output Power Down: <outputPowerDn> dBm, Up: <outputPowerUp> dBm;
		line Attenuation Down: <lineAttenuationDn> dB, Up: <lineAttenuationUp> dB;
		snr Margin Down: <snrMarginDn> dB, Up: <snrMarginUp> dB)"

NAPT Module

Facility	Severity	Contents
LOCAL4	INFO	NAPT Protocol: <TCP | UDP | ICMP> Open port: <port> Helper: <app_name> => <"failed" | "ok">

PPP Module

Facility	Severity	Contents
LOCAL0	WARNING	PPP Link up (<intf name>)
LOCAL0	WARNING	PPP Link down (<intf name>)
AUTH	ERROR	PPP PAP authentication failed (<intf name>) [protocol reject]
AUTH	INFO	PPP PAP on intf <intf_id> no response to authenticate-request
AUTH	NOTICE	PPP PAP remote user <remote_user_name> successful authenticated
AUTH	ERROR	PPP PAP authentication for remote user <remote_user> failed
AUTH	INFO	PPP PAP Authenticate Ack received
AUTH	INFO	PPP PAP Authenticate Nack received
AUTH	INFO	PPP PAP Authenticate Request sent
AUTH	ERROR	PPP PAP authentication failed (<intf name>)
AUTH	ERROR	PPP CHAP authentication failed (<intf name>)
AUTH	INFO	PPP CHAP authentication failed [protocol reject(server)]
AUTH	INFO	PPP CHAP authentication failed [protocol reject(client)]
AUTH	DEBUG	PPP CHAP Receive challenge (rhost = <hostname>)
AUTH	INFO	PPP CHAP Chap receive success : authentication ok
AUTH	DEBUG	PPP CHAP Challenge Send (Id = <challenge_id>)
AUTH	DEBUG	PPP CHAP Send status response: {ack ǁ nack}
LOCAL0	ERROR	PPP IPCP cannot determine remote IP address (<intf name>)
LOCAL0	ERROR	PPP IPCP cannot determine locale IP address (<intf name>)

PPTP Module

Facility	Severity	Contents
LOCAL0	WARNING	PPTP tunnel (<Pbname>) up:(<ip addr>)
LOCAL0	WARNING	PPTP tunnel (<Pbname>) down:(<ip addr>)

RIP Module

Facility	Severity	Contents
LOCAL1	INFO	RIP Packet received from unknown interface
LOCAL1	INFO	RIP Packet size is smaller than minimum size
LOCAL1	INFO	RIP Packet size is greater than maximum size
LOCAL1	INFO	RIP Wrong RIP packet alignment
LOCAL1	INFO	RIP RIP version 0 with command <command-name> received
LOCAL1	INFO	RIP Reserved field not zero in RIP header
LOCAL1	INFO	RIP RIP is not enabled for network address <ip-address>
LOCAL1	INFO	RIP Packet's v<version_nr> does not match to RIP v<version_nr>
LOCAL1	INFO	RIP Packet's v<version_nr> does not match to RIP v<version_nr> on interface <intf-name>
LOCAL1	INFO	RIP Packet v<version_nr> is dropped because authentication is disabled on interface <intf-name>
LOCAL1	INFO	RIP Simple password authentication failed on interface<intf-name>
LOCAL1	INFO	RIP No authentication in RIP packet
LOCAL1	INFO	RIP Obsolete command <command-name> received
LOCAL1	INFO	RIP Unknown RIP command received
LOCAL1	INFO	RIP Response does not come from default RIP port
LOCAL1	INFO	RIP Datagram doesn't come from a valid neighbor: <ip-address>
LOCAL1	INFO	RIP Unsupported family from <ip-address>
LOCAL1	INFO	RIP Network is net 127, class D or class E network
LOCAL1	INFO	RIP Address <ip-address> is my own address, net 0 or not unicast
LOCAL1	INFO	RIP RIPv1 packet with incorrect must be zero fields
LOCAL1	INFO	RIP Route metric is not in the 1-16 range
LOCAL1	INFO	RIP Nexthop address is not directly reachable <ip-address>
LOCAL1	INFO	RIP RIPv2 address <ip-address> is not correct mask /<mask> applied
LOCAL1	INFO	RIP Not configured for sending RIPv1 packet on interface <intf-name>
LOCAL1	INFO	RIP RIP routing table is full
LOCAL1	INFO	RIP Neighbor <ip-address> is not connected to direct network
LOCAL1	INFO	RIP Interface <intf-name> has not any valid local IP address for sending RIPv2 packets
LOCAL1	INFO	RIP Interface <intf-name> has not any valid %s address for sending RIPv<version_nr> packets
LOCAL1	INFO	RIP IP Address <ip-address> not found in RIP table

Routing Module

Facility	Severity	Contents
LOCAL1	INFO	GRP Default destination is routed via gateway <ip_address>
LOCAL1	INFO	GRP Default destination is not routed anymore via gateway <ip_address>
SECURITY	INFO	LABEL Rule Id:<rule_id> Protocol: ICMP Src_ip: <ip_address> Dst_ip: <ip_address> ICMP message type: <message_type_name || message_type_id > Label: <label_name>
SECURITY	INFO	LABEL Rule Id:<rule_id> Protocol: <protocol_name> Src_ip: <ip_address> Dst_ip: <ip_address> Label: <label_name>

Session Module

Facility	Severity	Contents
AUTH	NOTICE	SESSION TIMEOUT Timeout! (after <seconds> sec)

SNTP Module

Facility	Severity	Contents
NTP	WARNING	SNTP Unable to contact server: <SNTP server ip>
NTP	WARNING	SNTP Server not synchronized: <SNTP server ip>
NTP	WARNING	SNTP Invalid response from server: <SNTP server ip>
NTP	INFO	SNTP Synchronized to server: <SNTP server ip>
NTP	INFO	SNTP Synchronized again to server: <SNTP server ip>
NTP	WARNING	SNTP Roundtrip exceeds limits
NTP	ERROR	SNTP No server(s) configured, check configuration
NTP	ERROR	SNTP Systemtime update: time setting <systemtime> > new time setting: <new time>

Software Module

Facility	Severity	Contents
KERN	INFO	SOFTWARE File <Filename> <receive ǁ transmit> initiated
KERN	INFO	SOFTWARE File <Filename> <receive ǁ transmit><“ “ ǁ not> successful terminated"

UPnP Module

Facility	Severity	Contents
WARNING	SECURITY	UPnP<ActionName> refused for ip=<ip_address>
NOTICE	SECURITY	UPnP <ActionName> (<Error_string>) for ip=<ip_address>
NOTICE	SECURITY	UPnP action <ActionName> from ip=<ip_address> (<Error_string>)

Supported Key Names

Contents

This chapter lists all the key names supported by the SpeedTouch™, that can be used for completing CLI command parameters:

Supported IP Protocols

For more information on the listed IP protocols, see RFC1340 or www.iana.org.

Protocol name	Number	Description
ah	51	Authentication Header (AH)
egp	8	Exterior Gateway Protocol (EGP)
esp	50	Encapsulating Security Payload (ESP)
ggp	3	Gateway Gateway Protocol (GGP)
gre	47	General Routing Encapsulation (GRE)
hmp	20	Host Monitoring Protocol (HMP)
icmp	1	Internet Control Message Protocol (ICMP)
igmp	2	Internet Group Management Protocol (IGMP)
pup	12	PUP Protocol
rdp	27	Reliable Data Protocol (RDP)
rsvp	46	Resource Reservation Protocol (RSVP)
tcp	6	Transmission Control Protocol (TCP)
udp	17	User Datagram Protocol (UDP)
vines	83	Vines
xns-idp	22	Xerox NS IDP
6to4		

Supported TCP/UDP Port Names

For more information on the listed TCP/UDP port assignments, see RFC1340 or www.iana.org.

Port name	Number	TCP	UDP	Description
echo	7	Y	Y	Echo
discard	9	Y	Y	Discard
systat	11	Y	Y	Active Users
daytime	13	Y	Y	Daytime
qotd	17	Y	Y	Quote of the Day
chargen	19	Y	Y	Character Generator
ftp-data	20	Y	Y	File Transfer (Default data)
ftp	21	Y	Y	File Transfer (Control)
telnet	23	Y	Y	Telnet
smtp	25	Y	Y	Simple Mail Transfer Protocol (SMTP)
time	37	Y	Y	Time
nicname	43	Y	Y	Who Is
dns	53	Y	Y	Domain Name System (DNS)
domain	53	Y	Y	Domain Name System (DNS)
sql*net	66	Y	Y	Oracle SQL*NET
bootps	67	Y	Y	Bootstrap Protocol Server
bootpc	68	Y	Y	Bootstrap Protocol Client
tftp	69	Y	Y	Trivial File Transfer Protocol (TFTP)
gopher	70	Y	Y	Gopher
finger	79	Y	Y	Finger
www-http	80	Y	Y	World Wide Web (WWW) HTTP
kerberos	88	Y	Y	Kerberos
rtelnet	107	Y	Y	Remote Telnet Service
pop2	109	Y	Y	Post Office Protocol (POP) - Version 2
pop3	110	Y	Y	Post Office Protocol (POP) - Version 3
sunrpc	111	Y	Y	SUN Remote Procedure Call
auth	113	Y	Y	Authentication Service
sqlserver	118	Y	Y	SQL Services
nntp	119	Y	Y	Network News Transfer Protocol (NNTP)
ntp	123	Y	Y	Network Time Protocol (NTP)

Port name	Number	TCP	UDP	Description
sntp	123	Y	Y	Simple Network Time Protocol (SNTP)
ingres-net	134	Y	Y	INGRES-NET Service
netbios-ns	137	Y	Y	NETBIOS Naming System
netbios-dgm	138	Y	Y	NETBIOS Datagram Service
netbios-ssn	139	Y	Y	NETBIOS Session Service
imap2	143	Y	Y	Internet Message Access Protocol (IMAP) v2
sql-net	150	Y	Y	SQL-NET
pcmail-srv	158	Y	Y	PCMail Server
snmp	161	Y	Y	Simple Network Management Protocol (SNMP)
snmptrap	162	Y	Y	SNMP Trap
bgp	179	Y	Y	Border Gateway Protocol (BGP)
irc-o	194	Y	Y	Internet Relay Chat (IRC) - o
at-rtmp	201	Y	Y	AppleTalk RouTing Maintenance Protocol (RTMP)
at-nbp	202	Y	Y	AppleTalk Name Binding Protocol (NBP)
at-echo	204	Y	Y	AppleTalk Echo
at-zis	206	Y	Y	AppleTalk Zone Information System (ZIS)
ipx	213	Y	Y	Novell
imap3	220	Y	Y	Internet Message Access Protocol (IMAP) v3
clearcase	371	Y	Y	ClearCase
ulistserv	372	Y	Y	UNIX Listserv
ldap	389	Y	Y	Lightweight Directory Access Protocol (LDAP)
netware-ip	396	Y	Y	Novell Netware over IP
snpp	444	Y	Y	Simple Network Paging Protocol (SNPP)
ike	500	Y	Y	ISAKMP
biff	512	-	Y	Used by mail system to notify users of new mail received
exec	512	Y	-	Remote process execution
login	513	Y	-	Remote login a la telnet
who	513	-	Y	Maintains data bases showing who's logged in to machines on a local net and the load average of the machine
syslog	514	-	Y	Syslog
printer	515	Y	Y	Spooler
talk	517	Y	Y	Like Tenex link, but across machine
ntalk	518	Y	Y	NTalk

Port name	Number	TCP	UDP	Description
utime	519	Y	Y	UNIX Time
rip	520	-	Y	Local routing process (on site); uses variant of Xerox NS Routing Information Protocol (RIP)
timed	525	Y	Y	Timeserver
netwall	533	Y	Y	For emergency broadcasts
new-rwho	540	Y	Y	uucpd remote who is
uucp	540	Y	Y	uucpd
uucp-rlogin	540	Y	Y	uucpd remote login
rtsp	554	Y	Y	Real Time Streaming Protocol (RTSP)
whoami	565	Y	Y	whoami
ipcserver	600	Y	Y	SUN IPC Server
doom	666	Y	Y	Doom ID Software
ils	1002	Y	Y	Internet Locator Service (ILS)
h323	1720	Y	Y	H323 Host Call Secure
nfsd	2049	Y	Y	NFS deamon
sip	5060	Y	Y	Session Initiation Protocol (SIP)
xwindows	6000	Y	Y	X windows
irc-u	6667	Y	Y	Internet Relay Chat (IRC) Protocol
realaudio	7070	Y	Y	realaudio
httpproxy	8080	Y	Y	HTTP Proxy

Supported ICMP Type Names

For more information on the listed ICMP type names, see RFC1340 or www.iana.org.

ICMP Type name	Number	Description
echo-reply	0	Echo Reply
destination-unreachable	3	Destination Unreachable
source-quench	4	Source Quench
redirect	5	Redirect
echo-request	8	Echo
router-advertisement	9	Router Advertisement
router-solicitation	10	Router Solicitation
time-exceeded	11	Time Exceeded
parameter-problems	12	Parameter problems
timestamp-request	13	Timestamp
timestamp-reply	14	Timestamp Reply
information-request	15	Information Request
information-reply	16	Information Reply
address-mask-request	17	Address Mask Request
address-mask-reply	18	Address Mask Reply

Supported Facilities

For more information on the listed facilities, see RFC3164.

Facilty Name	Hierarchy Code	Syslog facility (listed according descending importance)
kern	0	Kernel messages
user	8	User-level messages
mail	16	Mail system
daemon	24	System daemons
auth	32	Authorization messages
syslog	40	Syslog daemon messages
lpr	48	Line printer subsystem
news	56	Network news subsystem
uucp	64	UUCP subsystem
cron	72	Clock daemon
security	80	Security messages
ftp	88	FTP daemon
ntp	96	NTP subsystem
audit	104	Log audit
logalert	112	Log alert
clock	120	Clock daemon
local0 local1 local2 local3 local4 local5 local6 local7	128 136 144 152 160 168 176 184	Local use messages
all	-	All facilities (SpeedTouch™ specific facility parameter value.

Supported Severities

For more information on the listed severities, see RFC3164.

Severity Name	Hierarchy Code	Syslog severity (listed according descending importance)
emerg	0	Emergency conditions, system unusable
alert	1	Alert conditions, immediate action is required
crit	2	Critical conditions
err	3	Error conditions
warning	4	Warning conditions
notice	5	Normal but significant conditions
info	6	Informational messages
debug	7	Debug-level messages

IP Precedence

Precedence	Number
Routine	0
Priority	1
Immediate	2
Flash	3
Flash-Override	4
CRITIC-ECP	5
Internetwork-Control	6
Network-Control	7

Differentiated Services Code Point (DSCP)

For more information on DSCP, see RFC3260.

PHB	PHB Name	Binary value
ef	Expedited Forwarding	101110
af41	Assured Forwarding 41	100110
af42	Assured Forwarding 42	100100
af43	Assured Forwarding 43	100010
af31	Assured Forwarding 31	011110
af32	Assured Forwarding 32	011100
af33	Assured Forwarding 33	011010
af21	Assured Forwarding 21	010110
af22	Assured Forwarding 22	010110
af23	Assured Forwarding 23	010010
af11	Assured Forwarding 11	001110
af12	Assured Forwarding 12	001100
af13	Assured Forwarding 13	001010
cs7	Class Selector 7	111000
cs6	Class Selector 6	110000
cs5	Class Selector 5	101000
cs4	Class Selector 4	100000
cs3	Class Selector 3	011000
cs2	Class Selector 2	010000
cs1	Class Selector 1	001000
cs0	Class Selector 0	000000

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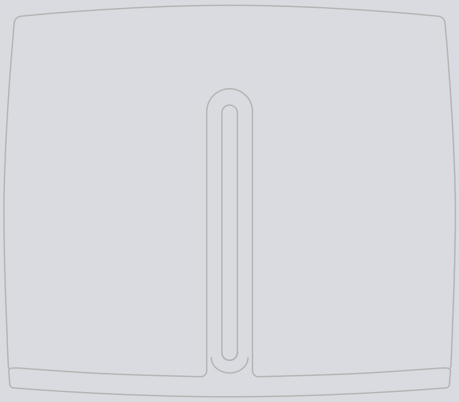

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